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JAN 80 T P COFFEE, J M HEIMERL
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I. INTRODUCTION

This report describes a method of numerically solving the equations governing a one-dimensional, premixed, laminar, steady state flame that propagates into an unbounded medium. To solve such a system, we adopted a standard package for integrating one-dimensional partial differential equations known as PDECOL. The program is modified to handle flame equations efficiently by concentrating the spatial grid about the flame front itself. How and why this is accomplished constitutes the bulk of this report. As a test case, the program has been implemented for the ozone flame in which there are three chemical species: 0, 0, and 0,

In passing it should be pointed out that two common simplifying assumptions are <u>not</u> made. These are (1) that the species diffusion velocity is proportional to the gradient of the logarithm of the species mass fraction (Fick's law) and (2) that the Lewis number is a fixed, predetermined value or function.

II. THE FLAME EQUATIONS

The derivation of the conservation equations for multicomponent reacting ideal gas mixtures can be found in the literature 1,2,3. Here we are interested in those equations that adequately describe a one-dimensional, laminar, premixed flame. The effects of viscosity, thermal diffusion and body forces are ignored. For such flames we recognize the fact that the flame velocity is small compared with the local speed of sound and so take the pressure to be constant³,⁴.

The equations pertinent to our present case are:

Overall Continuity:

$$\frac{\partial \rho}{\partial t} + \frac{\partial (\rho u)}{\partial x} = 0 \tag{1}$$

¹J. O. Hirschfelder, C. F. Curtiss and R. B. Byrd, <u>Molecular Theory</u> of Gases and Liquids, John Wiley and Sons, New York, second printing with notes, <u>March</u> 1964.

²R. B. Bird, W. E. Stewart and E. N. Lightfoot, <u>Transport Phenomena</u>, John Wiley and Sons, New York, 1960.

³F. A. Williams, <u>Combustion Theory</u>, Addison-Wesley, Reading Mass., 1965.

⁴R. M. Fristrom and A. A. Westenberg, <u>Flame Structure</u>, McGraw-Hill, New York, 1965, p. 319.

Continuity of Species:

$$\rho \frac{\partial Y_k}{\partial t} + \rho u \frac{\partial Y_k}{\partial x} = R_k M_k - \frac{\partial}{\partial x} (\rho Y_k V_k), \quad k = 1, 2, ... N$$
 (2)

and

Conservation of Energy:

$$\rho c_{p} \frac{\partial T}{\partial t} + \rho u c_{p} \frac{\partial T}{\partial x} = \frac{\partial}{\partial x} \left(\lambda \frac{\partial T}{\partial x} \right) - \rho \sum_{k=1}^{N} c_{pk} Y_{k} V_{k} \frac{\partial T}{\partial x} - \sum_{k=1}^{N} R_{k} M_{k} h_{k}, \quad (3)$$

where the variables are defined in the glossary. In equations (2) and (3), $V_{\bf k}$ is determined from the relation

$$\frac{\partial X_k}{\partial x} = \sum_{j=1}^{N} \frac{X_k X_j}{D_{kj}} (V_j - V_k). \tag{4}$$

For the thermal equation of state we have taken the ideal gas law,

$$p = \rho RT \sum_{k=1}^{N} Y_k / M_k , \qquad (5)$$

and for the caloric equation of state we use

$$h_k = h_k^o + \int_{T_0}^T c_{pk} dT.$$
 (6)

From the definition of mass fraction, mole fraction and diffusion velocity we have the identities:

$$\begin{array}{ll}
\mathbf{N} \\
\mathbf{\Sigma} & \mathbf{Y}_{\mathbf{k}} = 1, \\
\mathbf{k} = 1
\end{array}$$
(7)

$$X_k = (Y_k/M_k) / \sum_{j=1}^{N} (Y_j/M_j),$$
 (8)

and

$$\begin{array}{ccc}
N \\
\Sigma \\
k=1
\end{array}$$

$$\begin{array}{ccc}
Y_k V_k &= 0, \\
\end{array}$$
(9)

respectively. Notice that equation (9) can be used to eliminate one of the diffusion velocities in equation (4). (In our coding for the ozone flame we chose to eliminate the diffusion velocity of molecular oxygen.)

In order to avoid solving equation (1) explicity we introduce a Lagrangian coordinate ψ such that

$$\psi(x,t) = \int_{0}^{x} \rho(x',t)dx'. \qquad (10)$$

Then $\frac{\partial \psi}{\partial x} = \rho$ and (11)

$$\frac{\partial \psi}{\partial t} = \int_{0}^{x} \frac{\partial \rho(x',t)}{\partial t} dx' = -\int_{0}^{x} \frac{\partial}{\partial x'} (\rho u) dx' = -\rho u + m_{o}(t), \qquad (12)$$

where $\rho u \big|_{x=0} = m_o(t)$. With this notation equations (2) and (3) become

$$\frac{\partial Y_K}{\partial t} + m_0 \frac{\partial Y_k}{\partial \psi} = R_k M_k / \rho - \frac{\partial}{\partial \psi} (\rho Y_k V_k)$$
 (13)

and

$$\frac{\partial T}{\partial t} + m_0 \frac{\partial T}{\partial \psi} = \frac{1}{c_p} \frac{\partial}{\partial \psi} \left(\rho \lambda \frac{\partial T}{\partial \psi} \right) - \sum_{k=1}^{N} \frac{c_{pk}}{c_p} \rho Y_k V_k \frac{\partial T}{\partial \psi} - \frac{1}{\rho c_p} \sum_{k=1}^{N} R_k M_k h_k, (14)$$

respectively. For initial conditions symmetric about x=0 only the interval $0 \le x \le \infty$ need be considered and the boundary conditions are

$$\frac{\partial T}{\partial \psi}$$
 = 0 at x = 0 and x = ∞ for t \geq 0

and

$$\frac{\partial^{Y} k}{\partial \psi} = 0$$
, $(k = 1, 2, ... N)$ at $x = 0$ and $x = \infty$ for $t \ge 0$. (15)

In principle, specification of the initial conditions and integration of equations (13) and (14) subject to the boundary conditions of equations (15) would provide steady state profiles of the temperature, T, and the mass fractions, Y_k .

In practice there are a few steps that remain before actual coding of these equations can begin. For numerical convenience we introduce several non-dimensional quantities:

$$t^* = t/t_{\infty},$$

$$\psi^* = \psi/\psi_{\infty}$$

and

$$T^* = T/T_{\infty}$$
.

where

$$t_{\infty} = 5 \times 10^{-5}$$
 seconds,

$$\psi_{m} = 5 \times 10^{-6} \text{ gm-cm}^{-2}$$
, and

$$T_{\infty} = 300K.$$

These quantities pertain to the particular case of an ozone flame, though they might possibly be convenient divisors for other flames, too. It is also convenient to define m $_{0}^{*}$ = $(t_{\infty}/\psi_{\infty})$ m $_{0}$. The dimensionless forms of equations (13) and (14) are

$$\frac{\partial Y_k}{\partial t^*} + m_0^* \frac{\partial Y_k}{\partial \psi^*} = \frac{5 \times 10^{-5}}{\rho} R_k^M_k - 10 \frac{\partial}{\partial \psi^*} (\rho Y_k^V)$$
 (16)

and

$$\frac{\partial T^*}{\partial t^*} + m_0^* \frac{\partial T^*}{\partial \psi^*} = \frac{2 \times 10^6}{c_p} \frac{\partial}{\partial \psi^*} (\rho \lambda \frac{\partial T^*}{\partial \psi^*})$$

$$- 10 \sum_{k=1}^{N} \frac{c_{pk}}{c_p} \rho Y_k V_k \frac{\partial T^*}{\partial \psi^*} - \frac{5 \times 10^{-7}}{3 \rho c_p} \sum_{k=1}^{N} R_k M_k h_k, \qquad (17)$$

respectively.

For the ozone flame

$$\begin{bmatrix} Y_1 \\ Y_2 \\ Y_3 \end{bmatrix} = \begin{bmatrix} 0 \\ 0_2 \\ 0_3 \end{bmatrix}$$

and molecular oxygen concentration is eliminated by using equation (7).

Equations (16) and (17) are actually used to find the steady state mass fraction and temperature profiles.

For the particular case of ozone these profiles have not yet been measured. Only the flame speed as a function of initial mole fraction of ozone has been recorded⁵. The flame speed, uf, is the propagation velocity of the flame relative to the fluid at rest; i.e., at infinity. To compute uf first the steady state profiles are required. Then we transform to a coordinate system in which the origin moves through the fluid at the same speed as the propagation velocity of the flame relative to the fluid at the origin. In this coordinate system all variables are independent of time; specifically,

$$\frac{\partial Y_k}{\partial t} = 0 ,$$

$$\frac{\partial \rho}{\partial t} = 0$$

and from equation (1)

$$\frac{\partial(\rho u)}{\partial x} = 0.$$

We now compute the flame speed from the mass fraction profile(s). Take any one of the equations (2) and integrate to obtain

$$\int_{0}^{\infty} \rho u \frac{\partial Y_{k}}{\partial x} dx = \int_{0}^{\infty} R_{k}^{M} M_{k} dx - \int_{0}^{\infty} \frac{\partial}{\partial x} (\rho Y_{k}^{V} V_{k}) dx.$$
 (18)

⁵A. G. Streng and A. V. Grosse, "The Ozone to Oxygen Flame", <u>Sixth Symposium (International) on Combustion, August 1956</u>, Reinhold Publishing Corporation, New York, 1957, pp. 264-273.

Performing the integration of equation (18) we find

$$\rho u[Y_{k}(\infty) - Y_{k}(0)] = \int_{0}^{\infty} R_{k}M_{k}dx - \rho Y_{k}V_{k}|_{0}^{\infty}.$$
 (19)

To evaluate the upper limit of the last term of equation (19) we know from equations (15) that

$$\frac{\partial Y_k}{\partial x} \Big|_{0} = \frac{\partial Y_k}{\partial x} \Big|_{\infty} = 0.$$

Employing equation (8) we find that the boundary conditions can be written as

$$\frac{\partial x_k}{\partial x} \Big|_{0} = \frac{\partial x_k}{\partial x} \Big|_{\infty} = 0.$$

Then equation (4) evaluated at the boundaries is

$$0 = \sum_{j=1}^{N} \frac{X_k X_j}{D_{kj}} (V_j - V_k),$$

which admits only the unique solution $V_{\rm j}$ = 0 for all j. Thus the last term of equation (19) vanishes and we obtain

$$u(\infty) = \frac{\int_{0}^{\infty} R_{k}^{M} M_{k}^{dx}}{\rho(\infty) [Y_{k}(\infty) - Y_{k}(0)]} = \int_{0}^{\infty} \frac{\rho^{-1} R_{k}^{M} M_{k}^{dy}}{\rho(\infty) Y_{k}(\infty) - Y_{k}(0)]}. \tag{20}$$

In this coordinate system, $u_f = -u(\infty)$.

III. PDECOL - A GENERAL PDE SOLVER

The package PDECOL, developed by Madsen and Sincovec⁶ was used to solve this problem. This is a general package for solving partial differential equations (PDE's) using the method of lines. The spatial

⁶N. K. Madsen and R. F. Sincovec, "PDECOL: General Collocation Software for Partial Differential Equations", Preprint UCRL-78263 (Rev. 1), Lawrence Livermore Laboratory, 1977.

discretization is accomplished by finite element collocation methods based on B-splines. The time integration is done using a predictor-corrector method, based on the algorithm of Gear.

The basic assumption is that the solution can be written in the form

$$Y_k \stackrel{\circ}{=} \stackrel{NC}{\underset{i=1}{\Sigma}} C_k^{(i)}$$
 (t*) $B_i(\psi^*)$, k=1...N, and

$$T^* \stackrel{\sim}{=} \begin{array}{c} NC \\ \Sigma \\ i=1 \end{array} C_{N+1}^{(i)} (t^*) B_i(\psi^*),$$

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where the functions $B_1(\psi^*)$, i=1 ...NC, span the solution space for any fixed t* to within a small error tolerance. The time dependent coefficients $C_k^{(1)}$ are determined uniquely by requiring that the expansion above satisfy the given boundary conditions and that they satisfy equations (16) and (17) at (NC-2) interior (collocation) points. If there is a null boundary condition, an extra collocation point is added. The resulting set of coupled nonlinear ordinary differential equations (ODE's) may be numerically integrated by standard means.

The basis functions B_i used are B-splines. A program developed by C. deBoor⁷ has been incorporated into PDECOL to handle the generation and evaluation of the B-splines. These basic functions are piecewise polynomials. To define them, the user must supply a set of strictly increasing breakpoints. The piecewise polynomials are joined at these breakpoints (or knots). KORD, the order of the piecewise polynomials and NCC, the number of continuity conditions at the breakpoints must also be specified. Here, the expansion and its first (NCC-1) derivatives will be continuous at the breakpoints. Then the program will generate a set of NC = KORD(NB-1) - NCC(NB-2) basis functions and collocation points, where NB is the number of breakpoints.

By definition, a B-spline will equal zero except over a small interval. At any collocation point at most KORD of the B-splines will be non-zero. Because of this the system of ODE's for the coefficients $C_{\vec{k}}^{(i)}$ will not be fully coupled.

This system of ODE's is integrated in time, using a variant of the Gear integrator. The appropriate banded Jacobian is generated internally by the program. Once the integrator has reached a desired output time t*, the values of Y_k and T^* can be obtained for any ψ^* by substituting into the expansion.

⁷C. de Boor, "Package for Calculating with B-splines", Siam. J. Numer. Anal. 14, 441-472, 1977.

The user must supply a main program and three subroutines. In the main program the left and right spatial boundaries are specified. The order of the piecewise polynomials is specified, and the continuity and smoothness requirements where the piecewise polynomials are joined. The error criterion for the time integration is chosen. The most important factor is the definition of the breakpoints for the spatial discretization. They must be chosen close enough so that the spatial errors will not be too large. There is at present no way of determining an optimum set of breakpoints for a given problem other than trial and error.

The three subroutines BNDRY, UINIT and F are straightforward. In BNDRY the boundry conditions are specified. UINIT gives original spatial profiles for the unknowns, while F gives the formulas for determining the partial derivative of the unknown variables with respect to time.

IV. PRIOR IMPLEMENTATION

Margolis⁸ has attached the ozone flame problem using PDECOL. However, his approach has some serious disadvantages. Margolis solves the problem only for an initial ozone mole fraction of .25, (balance molecular oxygen), using a number of simplifications in the input data. These may affect the validity of his results, but do not change the basic numerical problem. (The details of our input parameters for the ozone test case will be reported elsewhere⁹).

To perform the integration, he makes the standard assumption that the fluid is at rest initially, that is, $m_0 = 0$ in equations (16) and (17). His boundary conditions correspond to zero flux of species and heat at the origin and at infinity. In practice, the boundary condition for $x = \infty$ must be applied at a finite value of x. This must be chosen large enough so that the flame front remains sufficiently remote from the boundary so that it is not affected by the boundary's finite location. Margolis chose the value $\psi = 50$.

His initial conditions⁸ are given by

$$Y_{1} = \begin{cases} 0.0005 \cos^{5} \left[\frac{\pi}{2} \left(\frac{\psi^{*}}{1.2}\right)^{7}\right], & 0 \leq \psi^{*} \leq 1.2 \\ 0, & \psi^{*} > 1.2 \end{cases}$$

$$Y_{2} = \begin{cases} 2/3 + \left(\frac{1}{3} - .0005\right) \cos^{5} \left[\frac{\pi}{2} \left(\frac{\psi^{*}}{1.2}\right)^{7}\right], & 0 \leq \psi^{*} \leq 1.2 \\ 2/3, & \psi^{*} > 1.2 \end{cases}$$

$$(21)$$

⁸S. B. Margolis, "Time Dependent Solution of a Premixed Laminar Flame", J. Comp. Phys. <u>27</u>, 410-427, 1978.

⁹J. M. Heimerl and T. P. Coffee, "The Detailed Modeling of Pr nixed, Laminar Steady-State Flame to Obtain Validated Reaction Networks I. Ozone". (Manuscript in preparation).

$$Y_3 = 1 - Y_1 - Y_2$$
, and

$$T^* = \begin{cases} 1.0 + 3.166667 \cos^5 \left[\frac{\pi}{2} \left(\frac{\psi^*}{1.2} \right)^7 \right] , 0 \le \psi^* \le 1.2, \\ 1.0, \psi^* > 1.2. \end{cases}$$

The conditions at ψ^* > 1.2 are those of the unburned medium and the conditions at ψ^* = 0 correspond roughly to a hot pocket of nearly burned gas.

The order of the B-splines was chosen to be 6, and the B-splines and their first four derivatives were chosen to be continuous at the breakpoints. Margolis' maximum breakpoint spacing was 0.2 corresponding to 250 breakpoints. His modified equations (13) and (14) were then integrated forward in time until the profiles stabilized. The flame front moves from the origin toward $x = \infty$ and the integration must be stopped before the boundary at infinity (here at $\psi^* = 50$) is reached.

The large number of breakpoints create a need for a large amount of computer "memory". In fact, working on a CDC 7600 in single precision, we could only use about 210 breakpoints because of local small core memory restrictions (\sim 60,000 words). Also, in this coordinate system, it is not obvious when a steady state flame has developed, since the flame, proceeding toward x = ∞ , is moving relative to a stationary coordinate system.

Moreover, we wanted results for higher initial mole fractions of 0₃. But the higher the concentration of 0₃, the faster the flame and the narrower the flame-front. As a consequence the finite location of the boundary at infinity would have to be larger to allow the flame sufficient space to develop. Yet, the breakpoints must be closer to adequately model the flame-front. And as a consequence the straightforward implementation of Margolis' method becomes impractical.

V. A MODIFIED FLAME CODE*

We have made substantial improvements by taking advantage of the peculiarities of a flame-front. In the unburned region, practically no changes occur. Most of the changes occur within the relatively narrow flame-front. In the burned regions reactions occur relatively slowly.

*The nomenclature for sections V and VI is defined at the end of section VI.

What we would like to have is a method of concentrating our breakpoints in the steep flame-front, where greater accuracy is necessary. In principal, a simple way to do this is to transform to a moving coordinate system in which the flame-front is stationary.

First, let us consider the fixed dimensionless coordinate system defined by the standard assumption that no mass flux flows through the origin, i.e., that

$$m_0^*(t^*) = (t_{\infty}/\psi_{\infty})\rho u|_{x=0} = 0.$$

The origin of this fixed system is defined by O_F in Figure 1. Let $\psi_F^*(t^*)$ be a point in the flame front in this system, and

$$S_F^* = \frac{\partial \psi_F^*}{\partial t^*}$$

be the speed of the flame in the fixed system. For steady state conditions

$$d\psi_{F}^{*}/dt^{*}=0,$$

or

$$\partial \psi_F^*/\partial t^* + (\partial \psi_F^*/\partial x) dx/dt^* = 0.$$

Identifying terms we have

$$S_F^* + (\rho/\psi_\infty)(t_\infty u) = 0$$
,

or

$$S_{\mathbf{F}}^* = - (t_{\infty}/\psi_{\infty})\rho u$$

where ρu is the constant mass flux through the flame in the \boldsymbol{x} coordinate system.

Next, again referring to Figure 1, we define a moving coordinate system with origin OM in such a way that a point on the flame profile remains at a fixed distance, ψ_M^{\star} from OM. This transformation can be simply implemented by letting $m_0^{\star}(t) = -S_F^{\star}$ in equations (16) and (17). In this case the mass flux through the moving origin, OM, equals the mass flux through the flame.

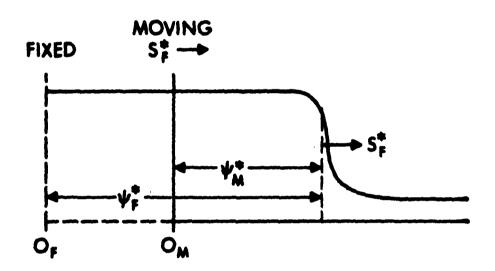


Fig. 1 The curve represents a convenient steady state temperature (or mass fraction) profile that defines a flame. A description of this flame in the fixed, Op, and in the moving, O_M , coordinate system serves to define the relationship between the two coordinate systems.

In practice, we do not know S_F^* at the beginning of the integration, and the flame will not be at steady state. We will now describe an algorithm to define $m_0^*(t^*)$ such that $m_0^*(t^*)$ approaches - S_F^* as the flame approaches steady state. In the process, we shall require that the flame-front remain about the same distance from the moving origin OM, in order that the breakpoints can be concentrated in the narrow range of the flame-front.

VI. ALGORITHM TO DEFINE m *(t*)

We chose the same conditions on the B-splines and boundary conditions as before. (The sensitivity of the computed flame speed on the order of B-spline is discussed in Appendix A). The boundary at infinity is placed at ψ^* = 25. For the case of .25 mole fraction we choose the initial conditions:

$$Y_{2} = \begin{cases} 0.9995, & \psi^{*} \leq 9.9575 \\ 2/3 + \left(\frac{1}{3} - .0005\right) \cos^{5}\left[\frac{\pi}{2}\left(\frac{\psi^{*} - 9.9575}{1.2}\right)^{7}\right], 9.9575 \leq \psi^{*} \leq 11.1575 \end{cases}$$

$$\psi^{*} \geq 11.1575$$

$$Y_{3} = \begin{cases} 10^{-7} & \psi^{*} \leq 9.9575 \\ \frac{1}{3} - \frac{1}{3} \cos^{5} \left[\frac{\pi}{2} \left(\frac{\psi^{*} - 9.9575}{1.2} \right)^{7} \right] & 9.9575 \leq \psi^{*} \leq 11.1575 \end{cases}$$

$$\frac{1}{3} & \psi^{*} \geq 11.1575$$

$$Y_1 = 1 - Y_2 - Y_3$$

$$T^* = \begin{cases} 4.166667 , & \psi^* \le 9.9575 \\ 1.0 + 3.166667 \cos^5 \left[\frac{\pi}{2} \left(\frac{\psi^* - 9.9575}{1.2}\right)^7\right] , 9.9575 \le \psi^* \le 11.1575 \\ 1.0 , & \psi^* \ge 11.1575 \end{cases}$$

These profiles correspond roughly to a flame-front where Y_2 = 0.8 at ψ_F^* = 11.0. Arbitrarily, we try to keep the flame centered at this point, that is $Y_2(\psi_M^*, t^*)$ = 0.8 at ψ_M^* = 11. (We define $\psi_C^*(t^*)$ as the value of ψ^* for which $Y_2(\psi^*, t^*)$ = 0.8).

A total of 58 breakpoints are chosen. Across the flame-front, $10 \le \psi^* \le 13$, the breakpoint spacing is 0.15, gradually increasing to 0.5 at $\psi_M^* = 0$ and 1.0 at $\psi_M^* = 25$.

For numerical reasons, we would like the function $m_0^\star(t^\star)$ to be continuous. For simplicity, we let it be a piecewise straight line.

We define a sequence of output times t_0^* , t_1^* , t_2^* , ..., t_k^* where m_0^* will be redefined. This must be done often enough to keep up with changes in the propagation velocity as the flame approaches steady state. The function m_0^* is then defined by the values at these ouput times, that is $m_0^*(t_0^*) = -S_0^*$, $m_0^*(t_1^*) = -S_1^*$ and so on. The problem lies in determining an appropriate sequence S_1^* such that $S_1^* \to S_F^*$.

To begin the iteration, we make a guess as to the initial, unrelaxed flame speed, S_{FO}^* . We let $S_{FO}^* = S_O^* = S_1^*$, so $m_O^*(t_O^*) = -S_O^*$ in the interval $t_O^* \le t^* \le t_1^*$, as depicted in Figure 2. By interpolation, we can find ψ_{FC}^* $(t_O^*) = \psi_{MC}^*$ (t_O^*) , the preselected centering point of the flame front at t_O^* . At this starting time, the fixed coordinate system and the moving coordinate system have a common origin.

We then integrate to time t_1^* and find ψ_{MC}^* (t_1^*) . The relationship between fixed and moving coordinate system at time t_1^* is shown in Figure 3 and is given by

$$\psi_{FC}^* (t_1^*) = \psi_{MC}^* (t_1^*) + S_0^* (t_1^* - t_0^*).$$

The average speed of the flame between t_0 and t_1 , denoted S_{F1}^{\star} , is defined by

$$S_{F1}^{*} = (\psi_{FC}^{*} (t_{1}^{*}) - \psi_{FC}^{*} (t_{0}^{*}))/(t_{1}^{*} - t_{0}^{*}).$$
 (23)

We need to determine the next value, $m_0*(t_2*) = S_2*$. One simple algorithm is to choose $S_2* = S_{11}^*$. Then at $t^* = t_2^*$, the origin O_M will be moving at the average speed of the flame-front between t_0^* and t_1^* . As the flame approaches steady state, $S_{F_1}*$ will approach S_F* and the origin will eventually match the flame speed.

The disadvantage of this procedure is the time lag in adjusting O_M (See Figure 4). During this lag the flame can drift away from its initial position at $\psi_M^* = 11$. If we were to adopt this algorithm the region of dense breakpoints would have to be much larger to allow for drift.

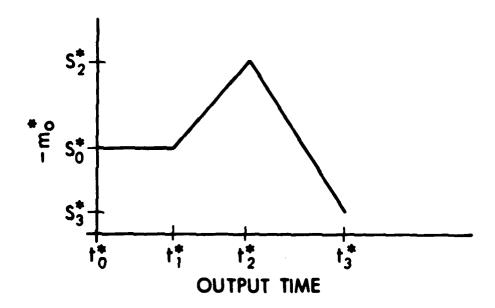


Fig. 2. A Sketch of m_0^* as a Function of Non-dimensionalized Output Time. $(S_1^* = S_0^*, \text{ see text})$.

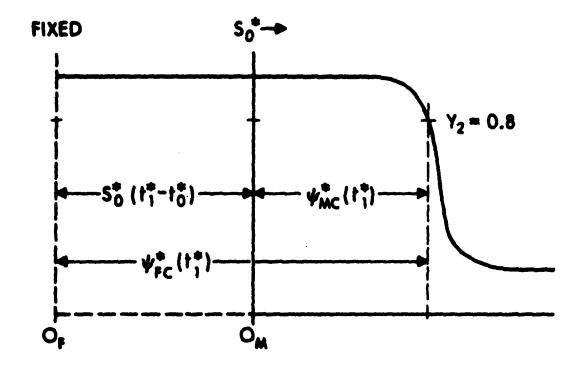


Fig. 3. Oxygen profile, Y_2 , is used to illustrate the relationship between the fixed and moving coordinate system at time t_1^* .

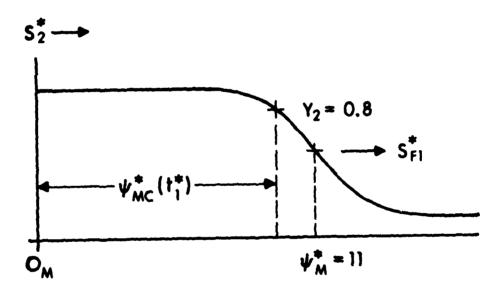


Fig. 4. The molecular oxygen mass fraction profile is used to characterize the flame front (exaggerated for clarity) at t* = t_1 *. The case sketched here, 11.0 > ψ_{MC} * (t_1 *) indicates the speed of the coordinate systems, S_2 *, should be increased to move ψ_{MC} * closer to 11.0.

An alternative method to determine S_2^* is to try to recenter the flame by the time t_2^* . To do this, we assume that $S_{F_2^*} = S_{F_1}^*$. As the flame approaches steady state, this will become very nearly true. Consider the average speed of the moving coordinate system between t_1^* and t_2^* ; i.e., $(S_1^* + S_2^*)/2$. If we let this average speed equal

$$S_{F1} + \frac{11 - \psi_{MC}^{*} (t_{1}^{*})}{t_{2}^{*} - t_{1}^{*}}$$

the average speed will be modified just enough so that ψ_{MC}^* (t2*) = 11. This centering constraint is sufficient to determine S_2^* . Specifically:

$$S_2^* = 2 S_{F1}^* - S_1^* + 2 (11 - \psi_{MC}^*(t_1^*))/(t_2^* - t_1^*).$$
 (24)

However, this algorithm for S_2^* is observed to have numerical difficulties. In order to center the flame, the speed of the origin must substantially over-shoot the flame speed and the resulting oscillations are hard to follow numerically, as illustrated in Figure 2.

An effective empirical rule was found. We simply took the average of the above two values for S_2^{\star} . That is

$$S_2^* = 3/2 S_{F1^*} - 1/2 S_1^* + (11 - \psi_{MC}^* (t_1^*))/(t_2^* - t_1^*).$$
 (25)

This helps cut down oscillations in m_0^* while keeping the flame reasonably centered.

The generalization is straightforward at time t_i^{\star} ,

$$S_{Fi}^* = (\psi_{FC}^* (t_i^*) - \psi_{FC}^* (t_{i-1}^*))/(t_i^* - t_{i-1}^*)$$
 (26)

and

$$S_{i+1}^* = 3/2 S_{i}^* - 1/2 S_{i}^* + (11 - \psi_{MC}^* (t_{i}^*)/(t_{i+1}^* - t_{i}^*).$$
 (27)

Once the flame reaches steady state, $S_{Fi}^* = S_F^*$. The quantity $11 - \psi_{MC}^*$ (t_i^*) quickly goes to zero, and equation (27) rapidly approaches the desired steady state solution $S_i^* = S_{i+1}^* = S_{Fi}^* = S_{Fi}^*$.

A slight modification should be made in evaluating the flame speed. Since the coordinate system is moving, the gradients of the profiles are not necessarily zero at $\psi_M{}^*=0$. So in running the code, no boundary conditions are imposed at $\psi_M{}^*=0$ and V_k at $\psi_M^*=0$ is not necessarily zero.

This term can be evaluated, and equation (20) becomes

$$u (\infty) = \frac{\int_{0}^{\infty} \rho^{-1} R_{k} M_{k} d\psi}{\rho(\infty) [Y_{k}(\infty) - Y_{k}(0)]} - \frac{\rho(0) Y_{k}(0) V_{k}(0)}{\rho(\infty) [Y_{k}(\infty) - Y_{k}(0)]}.$$
 (28)

This additional term is found to be extremely small.

VII. SENSITIVITY OF THE COMPUTED FLAME SPEED UPON THE PARAMETERS USED IN THE NUMERICAL METHOD

A question that might be brought up is whether the computed values of the flame speed depend on the particulars of the numerical method. That is, is the flame speed sensitive to the number of intervals (NINT) chosen? (The number of breakpoints equals one plus the number of intervals). Is it sensitive to the order of the B-spline (KORD) or the number of continuity conditions imposed (NCC)? To answer these questions we executed the code starting from the fixed standard profile for each initial mole fraction of ozone to a fixed value for t^* . (For an example of the 0.25 initial mole fraction standard profile see equation (22)). A value for t^* was chosen to be more than adequate to insure that the steady state had been achieved i.e. t^* (.25 ozone) = 40 and t^* (1.00 ozone) = 10. [This procedure is contrasted to the more normal and less time consuming method of iterating from previously saved profiles]. The advantage gained in starting from standard profiles is that the run time is then a measure of the relative efficiency of the change.

Table I shows the effect of doubling the number of breakpoints (grid points) on the computed flame speed. The standard we had selected for the 0.25 initial mole fraction ozone case was 57 breakpoints and sixth order spline with five continuity conditions. The flame speed was computed for each species (see equation 20) and shows little difference when the breakpoints are doubled. One also sees that the value of the flame speed is independent of the species selected for use in equation (20). As expected the run time, execution time less initialization time, increases

SENSITIVITY OF COMPUTED FLAME SPEED TO CHANGES IN NUMBER OF BREAKPOINTS FOR INITIAL OZONE MOLE FRACTIONS OF 0.25 AND 1.00 TABLE I.

	# INTEGRATION	STEPS	236	970	047	358	289	
		(SEC)						۰. م
ام		ائ	62.5		62.5	495	•	495
FLAME SPEED	(コンタ /可)	0 0 0 3	7 63	. 70	62.5	406	†	495
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		NCC NCC	}	S.	ស	i	w	אנ
		KORD		9	•	•	9	9
			NTN	57	114	***	70	140
		INITIAL OZONE	MOLE FRACTION		0.25			1.00

with increasing number of breakpoints. The number of integration steps is also indicated and are a measure of the relative effort to attain the steady state condition. Rows 3 and 4 of this table show the same results for the 1.00 initial mole fraction ozone case. Here we see that the flame speed is essentially unchanged whether NINT in doubled or whether 0, 0_2 , or 0_3 is chosen to evaluate equation (20).

Tables II and III show the sensitivity of the computed flame speed to changes in the order of the B-spline selected and the number of continuity conditions imposed for initial mole fraction of 0_3 of 0.25 and 1.00, respectively. The flame speed values are essentially all the same. By comparing run time and number of steps it can be seen that some improvement in run time could have been made over our standard case where KORD = 6 and NCC = 5.

THE STATE OF THE S

In every case the previous t* printed out [t* (0.25 ozone) = 35 and t* (1.00 ozone) = 9] also showed steady state had been attained. There were no differences to three significant figures for the 0.25 initial ozone mole fraction. With the exception of the KORD = 3 and NCC = 2 case, again no differences to three significant figures were observed for the 1.00 initial ozone mole fraction. The KORD = 3 and NCC = 2 case showed differences of six parts in 500 for 0, two parts in 500 for 0_2 and three parts in 500 for 0_3 , still an adequately close approximation to steady state.

In conclusion, we find that the observed insensitivity indicates that our standard cases are sufficient to supply a numerically reliable solution.

VIII. SUMMARY

We have reported a method to efficiently solve the equations that characterize a one-dimensional, premixed, laminar steady-state flame propagating into an unbounded medium. The general package PDECOL that solves partial differential equations using the method of lines has been employed. Spacial discretization is accomplished by finite element collocation methods based on B-splines, while the temporal integration is accomplished by a Gear-type predictor-corrector method. We have implemented PDECOL in conjuction with a method of concentrating the breakpoints in the steep flame-front where great accuracy is required. A description of this method comprises the bulk of this report. The method enables one to solve efficiently the governing equations. Sensitivity tests concerning the evaluation of the flame speed for different numbers of breakpoints, different numbers of continuity conditions show that we in fact have obtained a numerically reliable solution.

TABLE II. SENSITIVITY OF COMPUTED FLAME SPEED TO CHANGES IN ORDER OF B-SPLINE AND NUMBER OF CONTINUITY CONDITIONS IMPOSED FOR THE INITIAL OZONE MOLE FRACTION OF 0.25

	# INTEGRATION STEPS	236	254	250	218	248	266
	RUN TIME (SEC)	31.4	30.7	26.9	23.7	65.3	58.7
	03	62.5	62.5	62.6	62.7	62.5	62.5
ME SPEED	0 02	62.5	62.5	62.6	62.7	62.5	62.5
AII)	01	62.5	62.2	62.7	63.5	62.5	62.4
	NCC	ιĄ	₹	ĸ	7	4	2
	KORD	9	Ŋ	4	ю	9	4

TABLE III. SENSITIVITY OF COMPUTED FLAME SPEED TO CHANGES IN ORDER OF B-SPLINE AND NUMBER OF CONTINUITY CONDITIONS IMPOSED FOR THE INITIAL OZONE MOLE FRACTION OF 1.00

	# INTEGRATION STEPS	358	360	342	461	460	303	314
	RUN TIME (SEC)	57.5	65.5	46.8	63.0	61.8	73.2	95.7
مار	03		495					
FLAME SPEE (cm/sec	02	495	494	494	493	200	494	495
	ol	493	493	489	480	497	492	494
	NCC	S.	7	4	ю	2	2	4
	KORD	9	∞ 0	Ŋ	4	8	4	9

Nomenclature for Sections V and VI. (All Quantities are Non-dimensional)

- \mathbf{O}_F The origin of the fixed coordinate system (that is, there is no mass flow through $\mathbf{O}_F)$.
- O_{M} The origin of the moving coordinate system that will track the flame (at t* = 0, O_{M} = O_{F}).
- S_F^* The speed of the steady state flame with respect to O_F (this is a constant).
- m_0^* The non-dimensional mass flow through 0_M .
- $\psi_{\mathbf{r}}^*$ "Distance" in the fixed system.
- $\psi_{\mathbf{M}}^{*}$ "Distance" in the moving system.
- $\psi_{\mathrm{FC}}^{\star}$ The "distance" from 0_{F} to some specified point in the flame-front.
- ψ_{MC}^{\star} The "distance" from O_{M} to some specified point in the flame-front.
- S_i^* The speed of O_M with respect to O_F at t_i^* (equals the negative of the non-dimensional mass flow through O_M at t_i^*).
- S^{*}_{Fi} The average speed of the flame with respect to 0_F between t_{i-1}^* and t_{i}^* .

REFERENCES

- 1. J. O. Hirschfelder, C. F. Curtiss and R. B. Byrd, Molecular Theory of Gases and Liquids, John Wiley and Sons, New York, second printing with notes, March 1964.
- 2. R. B. Bird, W. E. Stewart and E. N. Lightfoot, <u>Transport Phenomena</u> John Wiley and Sons, New York, 1960.
- F. A. Williams, <u>Combustion Theory</u>. Addison-Wesley, Reading Mass., 1965.
- 4. R. M. Fristrom and A. A. Westenberg, Flame Structure, McGraw-Hill, New York, 1965, p. 319.
- 5. A. G. Streng and A. V. Grosse, "The Ozone to Oxygen Flame", Sixth Symposium (International) on Combustion, August 1956, Reinhold Publishing Corporation, New York, 1957, pp. 264-273.
- 6. N. K. Madsen and R. F. Sincovec, "PDECOL: General Collocation Software for Partial Differential Equations", Preprint UCRL-78263 (Rev. 1), Lawrence Livermore Laboratory, 1977.
- 7. C. de Boor, "Package for Calculating with B-splines", Siam. J. Numer. Anal. 14, 441-472, 1977.
- 8. S. B. Margolis, "Time Dependent Solution of a Premixed Laminar Flame", J. Comp. Phys. 27, 410-427, 1978.
- 9. J. M. Heimerl and T. P. Coffee, "The Detailed Modeling of Premixed, Laminar, Steady-State Flames to Obtain Validated Reaction Networks I. Ozone", (manuscript in preparation).

APPENDIX A. Recent Code Changes

A number of changes have recently been made in the code. The purpose is to make the code easier to modify, so that a minor change in a problem does not involve major changes in the code. Also, the form was chosen to be as easy as possible to extend to other flame simulations.

To begin the execution of the code, a number of input values are required. We must specify the right and left hand boundaries, ψ_R^* and ψ_L^* respectively. The corresponding starting temperatures, T_R^* and T_L^* , and mass fraction, Y_{kR} and Y_{kL} , must also be given. In addition, we need to specify t_f^* , the final integration time. Finally, we specify NINT, the numbers of intervals chosen, KORD, the degree of the piecewise polynomial functions, and NCC, the number of continuity conditions.

The subroutine UINIT will now automatically generate the initial guessed profile. Since the exact form of the profile is not important, so we use the simple formula

$$T_{L} = \begin{cases} T_{L} &, & \psi_{L}^{\star} \leq \psi^{\star} \leq \psi_{L}^{\star} + 0.4 \ (\psi_{R}^{\star} - \psi_{L}^{\star}) \\ T_{L} &+ \frac{(T_{R} - T_{L}) \ [\psi^{\star} - \psi_{L}^{\star} - 0.4 \ (\psi_{R}^{\star} - \psi_{L}^{\star})]}{0.2 \ (\psi_{R}^{\star} - \psi_{L}^{\star})} \ , \\ \psi_{L}^{\star} &+ 0.4 \ (\psi_{R}^{\star} - \psi_{L}^{\star}) \leq \psi^{\star} \leq \psi_{L}^{\star} + 0.6 \ (\psi_{R}^{\star} - \psi_{L}^{\star}) \\ T_{R} &, & \psi_{L}^{\star} + 0.6 \ (\psi_{R} - \psi_{L}^{\star}) \leq \psi^{\star} \leq \psi_{R}^{\star} \end{cases}$$

with corresponding formulas for the $\boldsymbol{Y}_k.$

The breakpoint sequence is also chosen automatically, with the breakpoints concentrated in the center of the interval (ψ_L^*, ψ_R^*) .

The program will produce the original guess S_0^{\star} for the speed of the origin. It does this by numerically integrating equation (20) for one of the given Y_k profiles. This can be converted to a corresponding mass flow rate m_0^{\star} .

The sequence of output times is also selected automatically. As $|S_{F_i^*} - S_{F_{i-1}^*}|$ decreases, $|t_{i+1}^* - t_i^*|$ is increased.

When the end time tf^* is reached, a data file is created. This contains the collocation points with the corresponding temperature and mass fractions. It also contains the last value for the speed of the origin, S_i^* , and the left and right boundaries of the flame front. For convenience, the left boundary is defined as the value of ψ^* for which

$$T^* = T_L^* + 0.1 (T_R^* - T_L^*)$$
,

and the right boundary as the value of ψ^* for which

$$T^* \approx T_R^* - 0.1 (T_R^* - T_L^*).$$

The integration can be restarted from this data file by setting NSTART = 2 within the program. If desired, any of the parameters ψ_R^* , ψ_L^* , NINT, KORD, or NCC may be changed.

The breakpoint sequence is again generated. For this case, the breakpoints are adjusted so the greatest concentration is in the given flame front.

The old collocation points and function values are read in the subroutine UINIT. If $\psi_L{}^*$ or $\psi_R{}^*$ have been changed, these values are adjusted to recenter the flame. If NINT, KORD, or NCC have been changed, the set of collocation points generated by PDECOL will be different. In this case, the required values at the new collocation points are found by interpolation. The original guess for $S_0{}^*$ is the value for the old speed of the origin.

The boundary conditions specified in BNDRY have also been modified. We now use the conditions

$$T^{\star} = T_{L}^{\star}$$

$$Y_{k} = Y_{kL}$$

$$\frac{\partial T^{\star}}{\partial \psi^{\star}} = 0$$

$$\frac{\partial Y_{k}}{\partial \psi^{\star}} = 0$$

$$\psi^{\star} = \psi_{R}^{\star}$$

Then even if ψ_L is accidentally chosen too close to the flame front, we will still have the proper values for T and Y_k .

The subroutine F and RT give the information necessary to compute the time derivatives of T and Y_k . These are complicated subroutines that depend on the specific kinetics and transport properties used.

We have developed a loader program that will write these subroutines, given the appropriate data. So changes in kinetics and transport, or changes to another flame, can be made easily.

APPENDIX B. Comment on the Method of Spalding and Patankar.

We have recently become aware of another program for solving steady state flame problems. Like the method documented here, it concentrates the spacial grid in the flame front.

This procedure is based on a computer code developed by Spalding and Patankar $^{\rm B\,I}$. It is applicable to systems of parabolic equations of the form

$$\frac{\partial \phi}{\partial x} + (a+b\omega) \frac{\partial \phi}{\partial \omega} = \frac{\partial}{\partial \omega} \left(c \frac{\partial \phi}{\partial \omega} \right) + d, \tag{B1}$$

where a and b are functions of x, and c and d are arbitrary functions. The code was originally used to predict boundary-layer phenomena. The method was modified by Spalding, Stephenson, and Taylor $^{\rm B2}$ to solve the equations of one-dimensional laminar flame propagation.

We can start with our set of equations (1), (2), and (3). The standard transformation

$$\frac{\partial \psi}{\partial x} = \rho \quad \frac{\partial \psi}{\partial t} = -\rho u \tag{B2}$$

is applied. Note that there is no mass flow through the left boundary. Equation (2) becomes

$$\frac{\partial Y_k}{\partial t} = -\frac{\partial}{\partial \psi} (\rho Y_k V_k) + R_k M_k / \rho \tag{B3}$$

and the temperature equation is similar.

To put this in a form similar to equation (B1), we need to apply some form equivalent to Ficks law. The most common approximation is

B1. D. B. Spalding and S. V. Patankar, <u>Heat and Mass Transer in Boundary Layers</u>, Morgan-Grampian, London, 1967.

B2. D. B. Spalding, P. L. Stephenson, and R. G. Taylor, "A Calculation Procedure for the Prediction of Laminar Flame Speeds", Combust. Flame 17, 55-64, 1971.

$$\rho Y_k V_k = -\rho^2 D_k \frac{\partial Y_k}{\partial \psi}, \qquad (B4)$$

where D is some diffusion coefficient. (More complicated relationships between V_k and $\partial Y_k/\partial \psi$ can be put into this form). Then equation (B3) becomes

$$\frac{\partial Y_k}{\partial t} = \frac{\partial}{\partial \psi} \left(\rho^2 D_k \frac{\partial Y_k}{\partial \psi} \right) + R_k M_k / \rho.$$
 (B5)

To concentrate the computational effort within the flame-front, another transformation is made. We define $\omega=(\psi-\psi_u)~/~(\psi_b-\psi_u)$, where ψ_u is a point near the unburned boundary of the flame-front and ψ_b is a point near the burned boundary of the flame. Then $\partial\psi_u/\partial t=-m_u$ and $\partial\psi_b/\partial t=-m_b$, where m is the mass flow through the points. At steady state, $m_u=m_b=\rho u$ is constant. Equation (BS) now is written

$$\frac{\partial Y_{k}}{\partial t} + \frac{m_{u + \omega} (m_{b} - m_{u})}{\psi_{b} - \psi_{u}} + \frac{\partial Y_{k}}{\partial \omega} = \frac{\partial}{\partial \omega} (\rho^{2} D_{k} \frac{\partial Y_{k}}{\partial \psi} / (\psi_{b} - \psi_{u})^{2} + \frac{R_{k} M_{k}}{\rho} . (B6)$$

The critical part of the code is the selection of m_u and m_b , so that they approach the steady state mass flow without causing instability in the code. In another paper, Spalding and StephensonB3 give suggestions for such "entrainment laws", or formulas for determining mass flow rates.

The two codes have the same basic aim, to concentrate attention on the flame-front. Both codes accomplish this by properly choosing mass flow rates, either through one or two points.

The Spalding and Patankar code is restricted to equations of the form (B1). Also, the code uses finite differences, instead of the finite element method of PDECOL.

B3. D. B. Spalding and P. L. Stephenson, "Laminar Flame Propagation in Hydrogen and Bromine Mixtures", Proc. R. Soc. London A.324, 315-337, 1971.

APPENDIX C. Program listing

A listing of the computer code follows. The subroutines MAIN,F, UINIT, FLSP, RT, BNDRY, DECOMP, and SOLVE are written for laminar flame problems. The code is set up to compute an ozone flame with an initial ozone mole fraction of 0.25.

The rest of the subroutines are from PDECOL. The only change has been made in the driver routine. The error criterion has been changed so that any quantity smaller than a user supplied parameter SREC is controlled by an absolute error criterion instead of a relative error criterion. This prevents the program from overworking when concentrations become negligible. Also, the collocation points are placed in the vector XCPTS, to permit their use in MAIN.

We have also included a listing of the loader programs. The first routine, LOADF, writes the part of the code concerned with computing the transport coefficients. LOAD writes the part of code concerned with the kinetics. LOAD can also write the appropriate subroutine for EPISODE, an ordinary differential equation solver. Both codes write the subroutine on a file called TAPE3. This can be cataloged and then attached to the main program. The routines are also written on the output file (TAPE6) along with additional information on the input values.

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		DIO=FLOAT (NINT10)		MAIN	104
		NUMBERINT 10+1		ZIVE	105
105		DP1=(PH1-PH0)/D10		ZIVE	106
		DP2=0.5+(PH2-PH1)/010		ZIV	101
		DP3m0.25+ (PH3-PH2) /D10		MAIN	108
		DP4#0.5*(PH4-PH3)/D10		MAIN	601
		OPS=(PHS-PH4)/D10		ZIVI	110
110		DC 10 K=1*NO		2	=
	2	PHEKPT(K)=FLOAT(K-1)*DP1		ZIV	211
		N[BNU+]		ZZZ	113
		NCHNC+2+FIN110		ZIV	*11
		DO 11 KENLINU		ZIV	115

PAGE

	PRUGRAM MAIN	MAIN 76/76 OPT=1 RUUND=/ TRACF FTN 4.6-452	03/19/78	14.26.17
1	:			;
611	3	1 TABLE (X) TABLE (X+1 TABLE (DLC)	2 2	977
		***************************************	2	77
			2 4 4	118
			ZIEI	617
	12	2 PMHKPT(K) #PH2+FLOAT(K+1+NL) +DF3	ZIVE	120
120			Z	121
		NUMBER CHANGE STATES OF THE ST	ZZ	122
		DO 13 KRNLING	MAIN	123
	13		Z	124
			Z	125
125		ロードストコストコストコストコストコストコストコストコストコストコストコストコストコス	MAIN	126
		DO 14 KENLOND	Z	127
	-		2 4 4	126
			Z	021
	U	DEFINE THE EVALUATION POINTS.	MAIN	130
130		ZSPB++(ZORD-ZCC)	Z	131
		「チレストストのリストのトランス	MATA	132
		SP07-1 X 100 00 00 00 00 00 00 00 00 00 00 00 00	2 4	300
		X	Z	75
	17		Z	135
135	ı		Z	136
)		DO 19 KHNSPD.NYTS.NSP	MAIN	137
		TI I I I I I I I I I I I I I I I I I I	Z	38
		DD# (PINA) (X) - DINAL (XE) / FLOAT (NSP)	ZEVA	30
		AVX-000	7 4	1 6 9 1
140			NAIN	
•	-		21 42	142
	19		27.4	16.3
			ZIVE	*
		BAITE (3,39) (PHVAL (1) . I = 1. NVPTS.NSKIP)	Z	50
145	ပ	130	ZIVE	146
		KCENBYDE	NAIA	147
		VCENBO.54 (UB (KCEN) +UC (KCEN))	ZIVI	9+1
	U		MAIN	149
		IF (NSTART.EQ.2) GO TO 350	ZYZ	150
150		DO 310 K#1*XVP#S	ZIVE	151
			2	152
		CALLUINITATION	ZIV	153
	•			<u> </u>
4	cor		2 7 4 7	661
1		SOUND THE SOUND OF	2 4 3	157
	308	3	Z	158
	310			159
		CALL FLSP (PHO.PHS.NPDE.TOUT.TPHINT.TFINAL.NVPTS.HHD.KCEN.FSP.1)		160
160		立のはそのまでは	Z Z Z	191
		ZIQ/ZIP+THI-100UUAN	ZIVI	162
		はいました。それにはないのは、これには、これには、これには、これには、これには、これには、これには、これに	Z	163
			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	164
146	350		Z	597
601	ה ה	-		141
	356			0 4
	CC 3	STANDED (DE)		0 4 1
	U		214	170
170	_	O CALL PDECOL (TO.TOUT.DT.PHEKPT.EPS.NINT.KOKD.NCC.NPDE.MF.	Z	171
		* INDEX.BOKK.IBORK)	MAIN	172

The second of th

	PROGRAM MAIN	16/76 OPT=1 ROUND#+=+/ TRACE FTN 4.6+452	03/19/78	14.46.17
175	O E	<pre>IF(INDEx.Me.0)GO TO TO WRITE(3.30)TOUT-DTUSED.NSTEPS FORMAT(//10x.3HT #.1PE12.4.4X,4HDT #.1PE12.4.4X, # lahtotal Steps #.18/) ATSECOND(CP) HT#GT-FT</pre>		173 175 176 176 176
180	4 n	WRITE(3,45)HT FORMAT(/)OX-10HRUN TIME =-1PE12.4/) CALL VALUES(PHAL-U-SCTCH-NPDE-NVFTS,NVPTS,0,WOKK) DO 25 KH1-NVPTS		1490
185	25	D0.25.JE2.NPDE U1(K)=U1(K)-U(J.K) IF(TOUT.6T.TFINAL*1.1E-08.AND.TOUT.LT.TPHINT)GO TO 65 D0 35 KE1.NPDE WRITE(3.37)LB(K) FORMAT(/10X.A16./)		
190	6 8 8 6 8 8	#RITE(3,39)(U(K,1),I=1.NVPTS.NSKIP) FORMAT(P10E12.4) CONTINUE NPDEP1=NPDE+1 #RITE(3,37)LE(NPDEP1)	7227 4444 7227 7227	1100 F 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
195	8 00°	WRITE(3.39)(U)(I).1#1.NVPTS.NSKIP) CONTINUE CALL FLSP(PHO.PHS.NPDE.TOUT.TPRINT.TFINAL.NVPTS.RHO.KCEN.FSP.2) FIND THE FORMULA FOR ADJUSTING THE ORIGIN SPEED AND CENTERING THE FLAME.	2	0 4 6 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
200	011	FDEX.1 UMAXEAMAXI(U(KCEN.K).U(KCEN.KP)) UMINEMINI(U(KCEN.K).U(KCEN.KP)) IF(UMAX.6T.VCEN.AND.UMIN.LT.VCEN)KS=K IF(UMAX.6T.VCEN.AND.UMIN.LT.VCEN)GO TO 115		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
205	9	KP=KS+1 PC=(VCR=U(KCEN+KS))/(U(KCEN+KS)) PHNE(WER=U(KS)+PC+(PHVAL(KP)-PHVAL(KS)) IF(TOUT,GT-TFINAL+1.1E-0)GU TO 150 TINC=TFINAL/50. TOUT=TOUT TOUT=TINC DPH=PHNEW-PHCT		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
215	150	PHOLDMPHNEW-SPEEDO+DT BSPEO.0 ASPESSEEDO SPEEDWAASP+BSP+TOUT GO TO ZO SPEEDWSPEEDW SPNIP (PHNEW-PHOLD)/(TOUT-TOLD) FMMSSPNIPHNYTMM	Z	222 222 222 223 223
225	•	WRITE(3.47)FM.FSP FURMAT(5X.44M0 =.1PE12.4.6X.6MFLSP =.1PE12.4/) DS=SPA1-SPEEDO TOLD=TOUT PC=A65(DS/SPEEDO) IF(PC.LT.0.10)TINC=2.0*TINC	Z Z Z Z Z Z M W W W W W W W W W W W W W W W W W W W	22.6 22.6 22.6 22.6 22.6 22.6 22.6 22.6

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	PHOGRAM MAIN	76/76 0	OPT=1 ROUND=+=+/ TRACE	17 /************************************	ACE	4 2 1	FTN 4.6452	03/19/76	14.26.17
			1	;					
		1. (PC.LT.0.0.) TINCHIINCH 1. PC. 7.		> >				Z	20
230		IF (TINC, GT, TFINAL #0,2) TINC=TFINAL #0,2	1AL *0.2) TI	NCHTF INAL	2.0			Z	231
		TOUTETOUTATING						2148	732
		2000	* * * * * * * * * * * * * * * * * * *	, , , , ,					
		14		14.7					,
		IF (10LD.EG.1FINAL) 60 10 201	4AL) 60 10	102				2	734
		DI*TOUT-TOLD						ZIAI	235
235		DPHEPHNER-PHCT						Z I A I	236
		DS#SPN1-SPEFUO						FAIR	637
		BSP=2.0.(05+UPH/DT)/01	4/DT1/0T					ZIKI	236
		ASPESPEEDO-HSPATULD	TOLD					ZIVE	239
		TOUT - SE - HS P - TOUT	100					ZIVE	2*0
240		SPEEDNAD, 54 (SPN1+SPN2)	(CN45+1)					ZIV	241
1		ASP# (SPEEDN-SPEEDD) / (TOUT-TOLD)	F00) / (TOL	11-1010)				Z	242
		ASPESPEEDO-TOLD-BSP	*BSP					ZIV	243
		DS#SPEEDN-SPEEDO	2					27 41	244
		WRITE (3.43) SPEEDN. DS	50.NO					Z	245
245	8.4	FORMATIONS DESCRIPTION SPEED BODE 12, 4 . 6 X . SHCHANGE	SHIGIN SPE	EU = 1 PE	12.4.6X.8HCH		=. 1PE12.4/)	ZIVI	246
)	•	PROLDSPRINES - DT * (ASP + BSP * (TOUT + TOLD) *0.5)	-dSH+dSV)	(TOUT + TOI	(2.0.10			Z	247
		IF (TOUT . E TEINAL) GO TO 20	4AL) GO TO	20				ZIV	248
	106	CONTRACT	22	,				ZIV	569
	•	TEXESTEE FOLDISH TO 500	10 500					Z	25.0
9	100	COLOUR CONTRACTOR DESTANDA	200 00 000	<u></u>				2 2	2 4
200		AIR DATA FILE F	AT TO SEE AND LINE						100
		BUNDANTA TANAMAN ON	Y L LANGE HE	200				Z	202
		ERITE (2.203) PIFFL "PIFFR" PHNEE	FFL . PHFFR	PUNE				Z A	£53
	203	FORMAT (1P3E12.4)	2					Z	\$25
		WRITE (2.205) SPEEDN	EDN					ZZ	255
255		WRITE (3,205) SPEEDN	EDN					2 Y X	556
	205	FORMAT (1PE12.4)	_					ZIV	257
		WRITE (3,200)						Z	852
	200	FOWMAT (/10X.18HCOLLOCATION POINTS/)	4COLLOCAT]	IOM POINT	()			ZIV	529
		NCPTS= (KORD-NCC) +NINT+NCC)N+LNIN+()	ņ				ZIV	260
260		CALL VALUES (PHCPTS.U.SCTCH.NPDE,NCPTS.NCPTS.0.WURK)	:PTS.U.SC1	CM . NPDE .	VCPTS . NCPTS .	D.WURK)		ZIVE	261
, !		WRITE (2.210) NCP	315					ZZYW	262
		WRITE (3,210) NCPTS	275					MAZZ	263
	510	FORMAT(18)						ZZV	564
		DO 250 K#1.NCPTS	S					MAIN	565
565		MRITE (2,220) PHCPTS (K) . (U (L+K) .L = 1 .NPDE)	3PTS (K) + (L	J(L+K)+L=	1 .NFDE)			ZIV	566
		#RITE (3,230) K.PHCPTS (K) . (U(L.K) .L=1.NPDF)	PHCPTS (K)	(U(L.K).	=1.NPDE)			NAIN	267
	250	CONTINUE						NAM	408
	220	FORMAT (1P10E12.4)	7					ZIVE	569
	230	FORMAT (18.1P4E12.4)	12.41					ZIVE	270
270	200	CONTINUE						ZIVE	127
	70	WHITE (3.80) INDEX	X ::					ZIVE	272
	96	FORMAT (/10x+7HINDEX	INDEX =+13)	=				ZIVE	273
		STOP						ZIVE	274
		C 2 4						X X	275
								ı	

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SUBROUTINE	NE F 76/76 OPT=1 RUUND=+-+/ THACE FTN 4.6+452	82/161/160 25	14.26.17
•	SUBROUTINE F (TIME, PH, U, UPH, UPH2, FVAL, NPUE) COMMON/TABAB/ASP, 4SP, TPN, PHN, TMN	18. 18. 1	N M
	COMMON/TARP/PRESS.PSP COMMON/TABRY/T.ºYI.ºY2.ºY3.ºY4	la la	- € 100
s	COMMON/TABUV/RH,UV(3)	14. 1	•
		16. 8 6.	- 00
	DIMENSION R(3)+H(3)	la.	•
-	DIMENSION U(NPDE),UPH(NPDE),UPH2(NPDE),FVAL(NPDE)	i e 4	97.
2	TALLOUNDER OF THE CO.		- 6
	10 Y1#Y1-U(K)	. 4	13
		•	1
ų	10年7日,19年1日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日日	La. 6	. 5
<u>-</u>		•	0 <u>~</u>
		. L . i	9.
	C CHERNO TRACTICO. THERDO TRACTICONACINCIPAR BRIGHT.	<u>.</u> te	2 5
20	IF (T.6T.1000.) GO TO 2000	- 14-	2 2
	1#1.9872#(3.62559850E+U0+T#(-1.87821840E+0		25
	# +- *(Z.15557730E-1Z))))	e 4
	- +T*(-1,87821840E-03/2,0+T*(7,0554540E-06/3,0	. ta .	\$ \$
52	• +T*(-6.76351370E-09/4.0+T*(2.15559930E-12/5.0)))))	L	9
	C 2#1,9872*(2.
	1 011 02304 01010101100111	#-5/UV012UC-13//// F	E 0
	-1.70615360E-03/2.0+T+(. ta .	30
30	4.5	u	33
	C 3ml.98#72#(2.46606170E+00+T#(9.17032090E+03	7	9 5 1
			n 4
	+ +T*(9.17032090E=03/2.0+T*(-4.96984800E=06/3.0	۰ د	35
35	•	16.	36
		u . l	37
	2000 CONTINUE C 181,9872*(3,62195350E+00+T*(7,36182640E+04		B 09
	* +T*(-1,96522280E-07+T*(3,62015580E-11+T*(-2,894566	70£-15)))) F	•
0+	٠.		7
	* +1*(7.36182640E-104/2.0+1*(-1.96522280E-107/3.0 + 11*)	le. l i	2 6
	9	- ta	? :
	+ +T+(-1-)3401390E-18+7+(6-005)310E-12+7+(-6-)1810260E-16))))		• • •
4 5	H 2=1,9872+(2,92302650E+04+T+(2,53526360E+00		•
	• +T*(-1.43718980E-05/2.0+T*(-1.1360]390E-08/3.0	la. li	•
	C_3ml_9m32m(5.46652390E+00+T*(1.73260310E+03	L 14.	• •
	-7.22048890E-07+T+(1.37216		20
50	٠.	le . (51
	 * * * * * * * * * * * * * * * * * * *	a. 1e.	2 5
	NUE	. la ,	•
,	FERMAL CONDUCTIVITY.	ia. I	5. 10.
55		ie. La	, y
	C LOS BROWLEY CORRELATION. T=300.2000.	. u .	. 9 2 3

14.26.17	609	6	95	63	0 4 4 4	6	29	99	69	٧0	7.	2 t	2 4	2.5	4	7.	90 G	- 80	8 6	95	63	*	.	9 5	0 7	9	9	- 6	2 r 3 6	3	S	9 6	• 0	9	100	101	103	104	105	106	901	109	911	112	114	115
03/19/78	4 4	u	.	ta. i	4 4			. 4	L	ı	•	u 14	. 14	. ia.	ı	L . 1		L LL	. 14.	L	la-,	i.	ia (e ia	. IA.	L	ie. I	. 4	. 14.	. ۱۵.	i. i		. 4.	u.	ie. li	4 IE	is.	la . 1	L L	. 4-	L . I	L 14.	.	L ia.	ie.
FTN 4.6+452	THETTER VISCUSITY DATA.					-		THETTER VISCOSITY DATA.	ISIONS COEFFICIENTS IS			2 2		• 4								ES.											9	00°87	TMN = 5.00001-05			(1)	-010)			10.00	111+01			
76/76 OPT=1 ROUND=+-+/ THACF	03 LENNARD-JONFS PAKAMETEHS FROM A FIT OF RL 1= 5.743H00E-07*(T** 0.267700F-01)	RL 2= 1.603700E-06-(T** 7.100000L-01)	PL 3= 3.899200E-07*(T** 0.424200E-01)	BINARY DIFFUSION COEFFICIENTS.	OFICE THE TAXKENO AND MANON.	O LENNARD LONES PARAMETERS FROM DALGAFNO	OZ LENNARD JONES PARAMETERS FROM HANLEY A	03 LENNAHD JONES PARAMETERS FROM A FIT UF	A LEAST SQUARES FIT OF THE RESULTING DIFFU	MADE FOR T=300.2000.	PRESS # 1.00	D 1 2# 1.370000E=05#(1## 1.74000E+00)	00 3 3 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SPECIFIC HEAT OF THE MIXTURE. NTIS FORMUL	CMR+C 1eV 1+C 2eY 2+C 3eY 3	SPECIFIC MEATS AND SPECIFIC ENTHALPIES.	C 18C 1/ 32.40	C 2=C 2/ 16:00	H 2=H 2/ 16.00	C 3=C 3/ 46.00	H 38H 3/ 48.00	MOLE FRACTIONS AND VARIOUS SPACE DERIVATIVES.	* X # X X X X X X X X X	3 / L X	SA/E A86 X	U 2=U(2)	DU 2=UPH(2)	000 2*UPH2(2)	D1 3=(D1 3)	000 3=0PH2(3)	U 1=1.0-U 2-U 3	0U 1#-0U 2-0U 3	DVS=+DU 1 32-00+DU 2/ 16+00+DU 3/ 46-0	DDYS=+DDU 1/ 32.00+DDU 2/ 16.00+DDU 3/	TPN = 1.0000E+03 PMN = 5.0000E-06	DT=UPH(1) + 1.0000E+03	DAME: 1.510/8404335=02*(5//+5/37/3/)	DL 2= 1.138627E-06*DT*(T**(-2.900000E	DL 3# 3,2847646-074DT4(T**(-1,575800E	DX 18DU 1/(32.00*YS)=Y 1"UYS/(YS*YS) DX 28DU 2/(16.00*YS)=Y 2*UYS/(YS*YS)	DX 3#DU 3/(48,00*YS)-Y 3*UYS/(YS*YS)	DD 1 28 2.341650E-05+(T** 7.740000E-0	UD 2 3	THERMAL CONDUCTIVITY OF THE MIXTUPE.	PLM = +X 1+H 1 +X 2+H 2 +X 3+H 3	PLMV= +X 1/HL 1 +X 2/HL 2 +X 3/HL 3
SUBROUTINE F	U			U (. U	· U	Û	U	U	U (Ų			ü	•	U						ပ													U									טנ	,	
ν.		ş				65	1			i	20				75				80				•	n 10			;	0				95				100				105			110			

SUBROUTINE F	76/76 OPT#1 RUUND#+-#/ TRACE	FIN 4.8-452	03/19/78	14.26.17
115	RLMWEL.G/RLMV RLMB0.59 (RLM-RLMV) SPACE DERIVATIVE OF THE THERMAL CONDUCTIVITY. DAM MEAD! 100% 1.01. 7 0% 1.01. 7 0% 1.01.	# E 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ند اند اند اند ص	1116
120	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	,		22122
C 125	DRIMED.54(DRLM+DRLMV) SOLVE FOR UV. Z(1 1 1 2 1 2 2 2 1 2 2 2 2 2 2 2 2 2 2 2		la, la la la la	4597
130	#(1)#0.0 Z(Z* 1)#U Z/(32.00*D 1 Z) Z(Z* 3)#U Z/(48.00*D 2 3) Z(3* 2)#U 3/(32.00*D 1 3) Z(3* 2)#U 3/(32.00*D 1 3) Z(3* 2)#U 3/(32.00*D 3)		لم فد ابد ابد ابد ابد	132
135	# -1 3/ 48.000 2 3) 2(3. 3)#-U 1/(32.000 1 3) # -U 2/(16.000 2 3) # (2)#RH*(DU 2*YS-U 2*DYS)/PHN # (3)#RH*(DU 2*YS-U 3*DYS)/PHN		باعد ابعد ابعد ابعد ابعد	135 136 136 139
140 C	CALL DECOMPINDS) CALL SOLVE(HPDE,w.UV) SOLVE FOR THE PARTIAL OF UV. WILL BO.0 WI 2) WRHE (DDU 2 VS S V V V V V V V V V V V V V V V V		. in to be be to	+ + + + + + + + + + + + + + + + + + +
145	• +DRH*(DU 2*Y\$-U 2*DY\$)PHN * Dimk(2) + (-DU 2*UV(1) + UV(2) + DU 1) / (32.00*D * +(U 2*UV(1) + U) 2*UV(2) + U) + DD 1 2 / (32.00*D * E) mk(2) + (-DU 2*UV(2) + UV(2) + DU 3 / (48.00*D * +(U 2*UV(3) + UV(2) + U) 2*UV(2) + UV(2) + DU 2*UV(2) + U) 2*UV(2) + U 2*UV(2 3 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	la la la la la l	51 4 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
150	### 3) #### (BDU 34*YS-U 34DYS) /PHN ## 5 DRH# (BDU 34*YS-U 34DYS) /PHN ## 3) ### 3) *# (-DU 34UV 1) **UV (3)	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	لد اید اید اید اید	0 4 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
185	CALL SOLVE(NPDE.W.DUV) FIND THE TIME DERIVATIVES. SPEASHBFOFTIME TLE 2.0000000000E-06*(RH*HLW*UPHZ(1)*UPH(1)*(DKH*HLM*KH*DFLM)) TRE 5.0000000000E-08*(*H(1)*H)	Heklm•kHeDKLM)	اها لعا في في لغا ل	15.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
s s	TOWN 1 2) = 1 4 4 1 3) = 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3		er lan lan lan lan lan lan la	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
170	DV 3H 3.0000000000000000000000000000000000		عد امد امد امد امد	170

SUBROUTINE UINIT	D W	TINI	76/76	0₽T ≄	1 80	OPT=1 ROUND=+-+/ TRACE	:		* ~ ~	FTN 4.5.452	03/19/78	14.26.17	PAGE
-		SUBROL	SUBROUTINE UINIT(PH.U.NPDE) DIMENSION U(1)	41 (P		NPDE)		SUBROUTINE UINIT(PH.U.NPDE) DIMENSION U(1) COMMANTALENCES DATE DATE (1) (2) (1)				~ ≈ •	
un.			COMMON/OBLAY/12.173.172.172.172.172.172.172.172.172.172.172	45 (24 15P + B	SP . 1	NH4 *NA.	T A					- a a a	
		COMMOS	COMMON/START/NS COMMON/TABLU/RH•UV(3)	S S S	ê						LINIO	- as o-	
10	U U U	DETERMINE THE INTILAL STAFTING PROFILE. X WILL BE A COLLOCATION POINT. Y STORES THE CORRESPONDING FUNCTION VALUES.	E THE IN	TIAL SCATI ESPO	STON	OINT.	PROF.	ILE. VALUES.				110	
	ပ	IF (NS.61-1)60 TO 50	IF (NS.61.1160 TO 50	10 5	•			_			UINIT	E 4	
15	υU	DETERMINE BURNED AN	ERMINE AN INITIAL GUI NED AND UNBURNED END: TE(DH.GT.DH.) GO TO S.	FIAL VED E	GUES NDS.	SSED PR	0F 1L(DETERMINE AN INITIAL GUESSED PROFILE FROM VALUES AT THE BURNED AND UNBURNED ENDS. TELEMACT DESIGN TO G.	AT TH	w	T E E	15.5	•
	М	DO 3 K#1, N U(K) #UC(K)	DO 3 K=1,NPUE U(K)=UC(K)	2	1							- 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
50	ß	PHO# (PH.	IF (PH.6T.PH3)GO TO 10 PHD#(PH-PH2)/(PH3-PH2)	30 TO	10 PH2)							22.2	
	a		DO 8 K=1.4NPDE U(K)=UC(K)+(UB(K)-UC(K))*PMD Detion	3(K)-	UC (#	0.1 *PHD						2 5 3 2 4 3	
52	10		DO 13 K#1.NPUE U(K)#UB(K)	***							UINIT	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
	80		.67.2360 COLLOCAT	10 I	00 VALU	IES AND	포	RETURN IF.NS.60.2)60 TO 100 READ THE COLLCATION VALUES AND THE COHRESPONDING FUNCTION	FUNC	NOIL	LIVIO	6 6 0 N N N	
30	U H		UES FROM A PRE READ(1.55)NPS	OOIAS	ž Ž	ž					FINIT	125	
N	r.		00 60 K#1.NPS READ(1.65)PHS(K).(UP(J.K).J#1.NPDE)		3	F. K.) + CH	J. NP[0£)			LINI	7 4 1 0 7	
ņ		5 00 00 00 00 00 00 00 00 00 00 00 00 00	SUREGO 0 SG LEZ-NPDE IF(UP(J-K)-LT-0-0)UP(J-K)=0-0 IF(UP(J-K)-6T-1-0)UP(J-K)=1-0	000	33	1.K) =0.						9 7 8 8 6 0 0 0 0 0	
•	30		SUM=SUM-UP(J.K) CONTINUF IF(SUM-LE-1-0)GO TO 65 UMAX=0.0	G T	99	_						9 4 4 4 9 4 4 4	
\$	62		DO 62 JEZ-NPUE F(UP(J-K)-6T-UMAX) UMAXEJ IF(UP(J-K)-6T-UMAX) UMAXEUP(J-K) CONTINUE	UMAX	O CHA	X#.Δ X=UP (.J	ž					* 0 0 0	
90	9 9 9 O	3	UP(JFAX°K)=UP(JMAX°K)-(SUM-1.0) CONTINUE FORMAT(IP10E12.4) FNTER THE F!AME.	(OMAX (4 . %	ž	(SUM-1	ê.					\$ \$ 0 \ 6 \$ 0 \ 10 \	
55	0 6		DO 70 KELINDS PHS(KIEPHS(K)+PHCT-PHCTO CONTINUE NSE3	PHCT	DH4-	:10						្រាស់ ព្រះ មល់ ស ព្រះ មល់ ស	
	75		00 75 J#1•NPUE U(J)=UC(J)								UINIT	54 58	

SUBROUTINE UINIT	E UINI	76/76	oT≈1 #0ℓ	OPT=1 HOUND=+-+/ TRACE	TRACE	FTN 4.5.452	03/19/78 14-26-17	14.56.17	7 8 6 7
		RETURN					TINIO	56	
	C	C DETERMINE THE NEW VALUES BY INTERPOLATION.	VALUES &	IY INTER	POLATIUN.		CINIT	09	
9	100	KEZ	1				LINIO	;	
•	,	IF (PH. 67. PHS (1)) 60 TO 104	160 TO 1	*0			LINIO	29	
		00 102 JESS YPDE					LINIO	63	
	102	C(7) #(C(7)					LINIO	•	
		PETURN					LINIO	92	
**	104	1F (PH.LT. PHS (NPS) 160 TO 108	S) 160 T(108			LIVIO	99	
;	•	DO 104 JET -NPDE					LINIO	67	
	306	(San-T) dom(T)					LINIO	90	
	•	DETUDA					LINIO	69	
	308	CONTINUE					LINIO	0,	
9,	011	IF (PH. I E. PHS (K.)	60 TO	120			►1×1⊃	~	
•	•	X X X X X X X X X X					LINIT	72	
		60 TO 110					UINI	73	
	120	大学第六十二					LINIO	2	
	•	C (MY) SHd-(X) SHd) / (DHS(X) -DHS(XM)	PHS (K) -	HS (KM)			LINIO	75	
7.		POPULATION OF LOND					LINIO	92	
2	130	((AX+7) dn-(X+7)-b+(nb(1+X+7)-nb(1+X+7)	CUP CJ+K	X+C) 40-	(i		UINIT	7.	
	•	RETURN					LINIO	8	
		END					LINIO	2	

SUBROUTINE FLSP	NE FLSI	P 76/76	OPT=1 RUUND=+-#/ THACE	FTN 4.6+452	03/19/78	14.26.17.
		SUBROUTINE FL	SUBROUTINE FLSP (PHL, PHH, NPUE, TOUT, TPHINT, TF INAL, NVPTS, HHO)	IL. NVPTS. HHO.	FLSP	~
		* KCEN.FSP.KINIT)			FLSP	m
	<u>ت</u> م	DETERMINE THE FLAME	LAME SPEED BY NUMERICALLY INTEGRATING THE SPECIES	ING THE SPECIES	FLSF	•
		DUATIONS DSING	THE TRAPLZOIDAL HULE.		FLSP	م
n		COMMON VIOLATION (NATIONAL CALL)	NATE (NATE)		3574	<i>o</i> 1
		STOREST AND THE STOREST AND TH	このできられ、一名のようとするできているのです。このできたこともというというということできました。このないのできたのです。これできるのできた。	2	2013	- a
		COMMON/TABLE/CH-LIVER			3	
		COMMON/TARP/FRESS PSR	200 - 200 -		35	10
0.7		COMMON/OUTP/	U1 (241) • U (3•241)		FLSP	: :
•		COMMON/MAIN/S	COMMON/MAIN/SCTCH (50) + #ORK (20000) + I FORK (1200)		FLSP	15
		COMMON/TABAH/	COMMON/TABAH/ASP, BSP, TPN, PHN, THN		FLSP	13
		COMMON/TABE/W (3)	H(3)		FLSP	-
		COMMON/TABRY,	/T.Y1.Y2.Y3.Y4		FLSP	15
15		DIMENSION RIV	DIMENSION RINT(3) +RINT1(3) +RI(3)		FLSP	9
		DIMENSION OF	(3) • ULPH(3) • ULPH2(3) • FVAL (3) • ULS(3	1.2.3) .PHB(2)	FLSP	- 1
		DIMENSION X	241)•8(3)•0(3)		FLSP	•
	u	DO 5 JEINPOE	La Caración de		FL SP	6.
•	n	81 (2) #6.0	0		20.5	0 .
2			2 4 2			12
	-		90		2 1 2	2 6
	2	Y) #[] (X)			9.0	2
		CALL RT (III . W.)			200	× ×
ž		DO 20 JE NPOF) L		8	5 2
:		RINTCLUERCO	!		d'S	?
	20	CONTINUE			dS I	28
	,	IF (K.EQ.1)60 TO	10 50		FLSP	88
		KMEK-1			FLSP	90
30		DPHEPHVAL (K) -PHVAL (KH)	-PHVAL (KM)		FLSP	31
		DO 30 JE1.NPDE	0.5		FLSP	32
	30	RI(J)=RI(J)+(0.5*(RINT(J)+KINT1(J))*DFH		FLSP	33
	20	DO 60 C=1.NP	DO 60 U#1+NPDE		FLSP	*
;	2		(C)		1 S	S ?
Ç	9	COMITNUE DE PROPE			201	9 .
	91.0	DATE OF THE PARTY			201	- a
	•	MRTTE (3.112)	(C) (C) (H) (NDUE)		9 1	9 6
	112	FORMAT (/2X+1)	FORMAT(/2x,11HINTEGRALS = IP10E12.4/)		35	9
•) 	IF (KINIT, EQ.)	1)60 TO 135		FLSP	7
	U	IND APPROPRIATE	FIND APPROPRIATE VALUES AT PHL AND PHR.		FLSP	24
		PHB (]) #PHR			FLSP	+ 3
		PHH (2) #HH			FLSP	;
•		CALL VALUES OF	CALL VALUES (PHB.ULS.SCTCH.NPDE.2.2.2.WUPK)		FLSP	in :
ç		20 112 CET 00			7.5	¢ !
		III PH/ 13 4111 5 (34) 423	1017		1 20	- 4
		UI PH2 (1) = (1 - 1) = 3)	(14) (4)		2	9 0
	115	CONTINUE			7 2	.00
20) 1	CALL F (TOUT .F	CALL F (TOUT.PHO.UL.ULPH.ULPH2.FVAL.NPDE)		FLSP	S
		DO 116 J=1.NF0E	F0E		FLSP	52
	118	(C) AD###-#(C) Q			FLSP	53
		00 120 J=1.NFUE	ر الا		FLSP	ň
		UL (J) =ULS (J.2.1)	2.1)		65 T	35 2.
ני		ULFR(J)=0L3(3+2+2)	045457		1 50	9 7
	120	CONTINUE	15+2+01		20.0	- d
	•)

SUBROUTINE FLSP	IE FLSP	76/76 OPTH1 ROUNDH+++/ TRACE	FTN 4.6**52	82/61/50	14.26.17
	-	CALL F(TOUT,PHS,UL,ULPH,ULPHZ,FVAL,NPDE)		dS 14	9.5
		DO 121 J#1.NFDE		FLSP	0.0
9	121	(C) VU+RH+(C) CE (C) O		FLSP	
		WRITE(3,122)(D(L),L=1,NPDE)		FLSP	95
	152	FORMAT (/2x+12HDIFF TERMS #+1P10E12.4/)		FLSP	63
		00 130 J=1.NPDE		FLSP	•
		RI(C)=#1(C)+0(C)		FLSP	65
65	135	CONTINUE		FLSP	99
		RI(1)=RI(1)/(RHO+(U](NVPTS)-UI(1)))		FLSP	67
		DU 150 J#2+NPDE		FLSP	68
	150	81 () 181 ()) / (B10 * () () 181 () - () () 181 ())		FLSP	6
		WRITE(3.152)RI		FLSP	10
70	152	FORMAT(/2X.13HFLAME SPEED #.1P10E12.4///)		FLSP	71
		FSP#RI(KCEN)		FLSP	72
	NI U	FIND THE X VALUES USING THE THAPEZOIDAL RULE.		FLSP	73
		RI(1)=0.0		FLSP	*
		X(1) = 0°0		FLSP	75
25		DO 200 K=1.NVPTS		FLSP	16
		T=U(1.*)+TPN		FLSP	11
		YSSM=U1 (K) /= (1)		FLSP	18
		DO 160 J#2.NPDE		FLSP	20
	160	YSSEHYSSE+C(C+V)/H(C)		FLSP	90
90		RH#PSR/(T*YSSM)		FLSP	19
		PINT(1)=1.0/RH		FLSP	85
		IF (K.EQ.1)60 TO 140		FLSP	E. 9
		X = 1 X = 1		FLSP	9
		OPHEPHVAL (K) -PHVAL (KM)		FLSP	92
85		RI(1)=RI(1)+0.5+(RINT(1)+KINT1(1))+OPH		FLSP	96
		X (X) BPIN + PI (1)		FLSP	87
		RINTI (1) #RINT (1)		FLSP	99
	500			FLSP	69
		IF (TOUT.LT.TPHINT) GO TO 250		FLSP	06
06		NSK IP = 2		FLSP	76
		#RITE(3,201)		FLSP	8
	201	FORMAT(/10x+7HX IN CH/)		FLSP	93
		#RITE (3+202) (X(L) .L=1 .NVPTS.NSKIP)		FLSP	*6
		FOHMAT(1P10£12.4)		FLSP	98
95	250	CONTINUE		FLSP	96
	50	COMPUTE THE FLAME THICKNESS.		FLSP	6
		TMAXEAMAX1 (U(1, NVPTS) .U(1,1))		FLSP	96
		THINHAMINI (U(I) NVPTS) (U(I)))		FLSP	66
		DT=0.1+(TMAX-TMIN)		FLSP	001
100		THETHAX-DT		FLSP	101
		TL=TMIN+DT		FLSP	102
	-	80 310 K#1.NVPTS		FLSP	103
		KP=K+1		FLSP	* 01
		IF (TL.GT.U(1.K).AND.TL.LT.U(1.KP))RLEK		FL SP	105
105		IF (TH.GT.U(1.K).AND.TH.LT.U(1.KP))KHER		FLSP	901
	310	CONTINUE		FLSP	101
		X_P#X_+1		FLSP	801
				30.0	7
		PL=(U(1+KL)-TL)/(U(1+KL)-U(1+KLP))		FL SP	017
011		PTS (C(1,*X1)-1X1)/(C(1,*X1)-1C(1,*X17))		45 C	
		PAIL BEEVAL (RI) +FL + (PEVAL (RIP) +FRVAL (RI)		ב מ ב ב	717
	·			100	57.
				100	
		XIIN (XI)+7I* (X (XI) 1X (XI)		7677	CTT

SUBROUTINE FLSP	FLSP	76/76 0	76/76 OPT=1 ROUND=+=+/ THECE	FIN 4.5.452	03/19/78 14.26.17	14.26.17	MAGE
4:		FTERRES (X) CALL			FLSP	116	
		TING . TING . PAIL	11.00		FLSP	117	
		TILL THE CANADITA			FLSP	118	
		CHEST RANTEL THE STATE	- TITE		FLSP	119	
		DESFORMANCE (TELL OFFICE	(ILIA)		FLSP	120	
	41.5	FORMAT (/ 10x - / 3H	FORMATION STAFFAME FRONT FROM PHIS # 1PE12.4.2X.	4.2X.	FLSP	121	
, ,	,	GI W + ING CLUG	612.47		FLSP	122	
		ECTTS (A. A. E. E. E. E.	I		FLSP	123	
	4	SOBMATA CARACA	FORMATION SOME AND FROM FROM X ROLFELS . 4.2X.	ו	FLSP	124	
	•	* ************************************			FLSP	125	
361		MUTTE CALABOLFTH			FLSP	126	
601	330	FORMAT (/ 10x - 17H	FOREATIVIDE THE AME THICKNESS ROIDEDS SX-2HCM/)	HCH/)	FLSP	127	
) 1	DETURN			FLSP	126	
		END			FLSP	129	

*

CAND MR, SEVERITY DETAILS DIAGNOSIS OF PROBLEM

ARRAY REFERENCE OUTSIDE DIMENSION BOUNDS.	ARRAY REFERENCE OUTSIVE DIMENSION BOUNDS.	AHRAY REFERENCE OUTSIVE DIMENSION BOUNDS.	ARRAY REFERENCE DUTSINE DIMENSION BOUNDS.
ARRAY HEFERENCE OU	ARRAY REFERENCE OU	AHRAY REFERENCE OU	ARRAY REFERENCE DU
` >	` `	×	œ
12 1	13	33	35

SUB	SUBROUTINE HNDRY	HNORY	76/76	OPT=1 ROUND=+-4/ TRACE	RACE	FTN 4.6+452	03/19/78	03/14/76 14.26.17	3
		•	A PARTITION	(300 - 1020 - HOUSE BH. U. UPH. BHOU. DECUMENT OF THE PROPERTY	0.0000PH+0	201.NPPE)	HNDHY	~	
-			THE MOTOR HALL	STAFFICE CONTRACTOR CONTRACTOR (NPDE)	(NPDE)		BNORY	m	
			THENSTON DE	DIMENSION DEDUCADE ANDE AUBDUPHINEDE ANDE	INPOE , NPOE		BNCHY	• •	
		. ~	COMMON/ENDPT/PHL.PHR	/PHL.PHR			SAOKS	ภ	
so.		~	DO 5 1#1.NPDE	iui.			PNORY	۰ ۵	
			DZDT(1)=0.0				HONA	· o o	
		•	DO SE CREENING	ı, «			KNOKY	۰	
			0.000.000.000.000.000	*			BNDRY	10	
		'n.	Department of the contract of	24 04 05 00 00 00 00 00 00 00 00 00 00 00 00			BNDKY	=======================================	
0		•	THE LANGE OF THE PARTY OF THE P	360 10 36			FNORY	77	
			DO TO CELEBRADE				BNDRY	13	
		9	DEDC 10-11-10-10-10-10-10-10-10-10-10-10-10-1	•			FIGNE	*	
			AC LURA	u c			BNDRY	15	
		90	TOTAL STATE OF THE				BNDRY	91	
5		٠ •	DECOVE STATES	2.4			AMONA	17	
			7 C X X				ENDRY	91	

))			
•				
-		SUBSUCITIVE DECORPE (NA)	DECUMP	~
		DIMENSION SCALES(3)	DECCMP	m
		CORRON/DS/IPS (3)	DECOMP	•
		COFFONTARGALL	THE COME	ď
ď		THIS IS A STANISHED ASSETTING FOR SOUTH A SET OF I PARAGO	and of	٠.
		CONTRACTOR OF THE PROPERTY OF		
	, (ARCHAPTIC RECOMMEND TO COLOR OF THE STATE OF	1	٠,
		- ZOT-7-17-0000	いない	•
			DECUMP	•
		FORSYTME AND MOLER. COMPUTER SOLUTION OF LINEAR ALGEHRAIC SYSTEMS.	DECOMP	2
70			DECOMP	_
•		2 - C = 2 - C C C C C C C C C C C C C C C C C C	OFCORE	
			2000	
		71-77-6	10000	7
		D. O.	DE COMP	:
		DO 2 Jal.	DECOND	15
15		IN (NORNELADS (UL (1. L))) 1.2.	DECOMP	4
	_		ON COUNTY	
	• ٢		1000	
	u			9
		IT (TOENE) 3. t. o.	DECOMP	<u>ه</u>
	m	SCALES(1) = 1 - 0 / ROENDA	DECUMP	50
20		60 TO S	DECOMP	~
,	4	10116(3.100)	ON CUE	
			10000	.
	3		TE COLO	S
		SCALES(1) = 0.0	DECOMP	1
	S	CONTINUE	DECOMP	52
25		122	DECOMP	*
}		127.114	9400	
		700710	したこの	9
		No TI THE CO.	DECOMP	67
		(I)Sal#dI	DECOMP	30
90		SIZE#ABS(UL(IP•K))*SCALES(IP)	DECOMP	33
		IF (SIZE-#16)11-11-10	DECOMP	32
	2	D 1645175	00000	2
	;		9	; :
	:		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	; ;
4	7	TOO TOO		s,
35		IF (BIG) 13 • 12 • 13	DECOMP	96
	2	EDITE (3,110)	DECOMP	37
	110		DECOMP	4
	•		10000	3
			1000	•
	~	V-K)14013014	DECOMP	0
04	*		DECOMP	7
		(×IdxCI)SdI=(X)SdI	DECOMP	* 5
			DFCOMP	
	4		OF COMP	! ;
	•			; ;
4			DECOME	n ·
₽ P		77 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	DECOMP	•
		DO 16 INKPI.	DECOMP	**
		(I)Saladi	DECUMP	84
		EME-UL (IP+K)/PIVOT	DECOMP	6
			DECOMP	ů.
50		20 16 CHR51.	DECUMP	51
		CL (D+ COMP	6
	7		DECOMO	: ;
		2014 - 1001	10000	7 3
	-		10000	r i
		(Z) 01 1 1 1 1 1 1 1 1 1	DECOMP	£ .
55		IF (UL (KP+N))19-18-19	DECOMP	9
	18	WRITE (3-110)	DE COMP	57
	6	National States and St	DECUMP	28
	,			

PAGE 17	
14.26	50
03/19/76 14.26.17	DE COMP 59
FTN 4.6+452	
TRACE	
76/76 OPT#1 HOUND#+-#/ TRACE	
007=1	
76/76	
<u> </u>	END
SUMMOUTINE DECOM	

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SUBROL	SUBROUTINE SOLVE	16/76	OPT=1 RUUND=+-*/ TRACE	/*=0	TRACE	FTN 4,6+452	03/15/78 14.26.17	14.26.17	PAGE
-	Š	SUBROUTINE SOLVE (NN.B.X)	LVE (NN+B+X)				SOLVE	~	
	٥	DIMENSION B(3) . X(3)) • X (3)				SOLVE	٣	
	Ű	COMMON/05/1PS (3)	(3)				SOLVE	•	
	Ũ	COMMON/TAR6/UL (3+3)	L (3+3)				SOLVE	S	
S	ž	X = X × × ×					SOLVE	•	
	ž	NP NH NA					SOLVE	_	
	Ĩ	IP=IPS(1)					SOLVE	•	
	*	X(1)=B(1P)					SOLVE	•	
	á	DO 2 1=2.N					SOLVE	07	
0.1	Ā	P=IPS(I)					SOLVE	~	
	Ã	M]=]-]					SOLVE	75	
	Ñ	SUM*0.0					SOLVE	E.	
	Ó	DO 1 J=1.IM1					SOLVE	41	
	·	CUM*CUM (IP.C) **	(C) X* (D.				SOLVE	51	
15	2	K(I)=8(Ib)-20M					SOLVE	91	
	Ã	PEIPS(N)					SOLVE	11	
	×	K(N) EX(N)/UL(IP+N)	IP.N)				SOLVE	\$	
	Õ	DO 4 18ACK=2,N	z				SOLVE	61	
	~,	[=NP] - 18ACK					SOLVE	07	
50	<u></u>	P#IPS(I)					SOLVE	23	
	Ä	P]=1 +1					SOLVE	22	
	Ñ	SUMMO.0					SOLVE	23	
	ŏ	No 191=0 E DO					SOLVE	8	
	ب ص	SUM SUM + UL (IP + C) + X (C)	(7) X + (7 ·				SOLVE	52	
52	*	K(I)=(X(I)-SOM)/OL(IP.I)	M) /UL (1P+1)				SOLVE	97	
	ã	RETURK					SOLVE	27	
	ŭ	FED					SOL VE	96	

FIN 4.6+452

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구 호	
C THIS IS THE SEPT 23, 1977 VERSION OF PUFCUL.	0000
C THIS PACKAGE WAS CONSTRUCTED SO AS TO CONFORM TO AS MANY ANSI-FORTRAN C RULES AS WAS CONVIENTLY POSSIBLE. THE FORTMAN USED VIOLATES ANSI C STANDARDS IN THE TWO WAYS LISTED BELOW	
C 1. SUBSCRIPTS OF THE GENERAL FORM C*V1 + V2 + V3 ARF USED C POSSIBLY IN A PERMUTED UNDER!, WHERE C IS AN INTEGER CONSTANT C AND V1. V2. AND V3 ARE INTEGER VARIABLES.	
C 2. ARRAY NAMES APPEAR SINGLY IN DATA STATEMENTS IN THE ROUTINES C BSPLVM AND COSET. C	
	P0600
C NODE NONLINEAR PARTIAL DIFFERENTIAL EQUATIONS OF AT MOST SECOND	9050
C FORE	P0600
C DU/DT = F(T+ X+ U+ UX+ UXX)	POECOL
CHARRE	PDECOL
C U = (U(1), U(2),, U(NPDE))	PDECOL
UX = (UX(1) + UX(2) + +++ + + + + + + + + + + + + + + + +	POECOL
	PDECOL
	PDECOL
	POECOL
C OF U(K) WITH RESPECT TO THE VARIABLE X. AND DU/DI IS THE VECTOR OF	PDECOL
	PDECOL
COMPONENTS DEFIN	PDECOL
	PDECOL
C ROUNDARY CONDITIONS	PDECOL
C DEPENDING ON THE TYPE OF POE (S) + 0+ 1+ UR 2 HOUNDARY CONDITIONS	PDECOL
	POFCOL
C B(U+UX) = 2(T)	PDECOL
WHERE 6 AND Z ARE ARSITHANY VECTOR	PDECOL
CONDITIONS MUST	POECOL
COMPLIAND HOST BE CONSISTENT WITH THE	2

タムリらゃをごうらあらようちゃとこうしんのようちゃもぞうりもなようらからからいこうらんのようらずをごうらららくりょうにっているこうないましたをとれました。

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03/19/76 14.26.15 FTN 4.6+452

**************************************	2	PDECOL	000
INITIAL CONDITIONS	0.0	Potcol	3 3
EACH SOLUTION COMPONENT U(K) IS ASSUMED TO HE A KNOWN (USEK	-	Poecol	مَ وَ
PROVIDED) FUNCTION OF X AT THE INITIAL TIME T = TO. THE		PDECOL	•
INITIAL CONDITION FUNCTIONS AUST BE CONSISTENT WITH THE GOLDDARY		PDECOL	٤ ١
SATISFY THE BOUNDARY CONDITIONS FOR T # TO. SEE SURPOUTIN	· -	Porcor	9
DESCRIPTION BELOW.		POECOL	49
	06	PDECOL	ě
REDITORN LISER SLIPPLIED SLIPPOLIFO	2 6	אונים שונים שונים	-
		PDECOL	-
AND A	2	PDECOL	-
ROGRAM WHICH DEFINE THE PDE PROBLEM WHOSE SOLUTION IS TO		PDECOL	ř
ATTERPTED. THE TERM SURPECONANS ARE	04	PDECOL	~ `
1) SUBROUTINE F (T. X. U. UX. UXX. FVAL. NPDE)	2 6	PDECOL	
H		PDECOL	~
THIS POUTINE DEFINES THE DESIRED PARTIAL DIFFERENTIAL	-	PDECOL	ř
EQUATIONS TO BE SOLVED. THE PACKAGE PROVIDES VALUES	OF THE	PDECOL	žÕ (
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1. MADSEN, N.K. AND R.F. SINCOVEC, PDECOL - COLLOCATION SOFTWARE FOR PARTIAL DIFFERNTIAL EQUATIONS, ACM-TOMS, VOL NO PDECOL 2. SINCOVEC, K.F. AND N.K. MADSEN, SOFTWARE FOR NUMLINEAR PARTIAL DEFERENTIAL EQUATIONS, ACM-TOMS, VOL NO. 3, PDECOL 3. MIDMASSH, A.C., PRELLHIMARY DOCUMENTATION OF GEATIB SOLUTION DECOL 4. DEBOOR. 4. DEBOOR. 4. DEBOOR. 5. THE T. M. THER DECOL IS CALCLETING WITH B-SPLINES, SIAH J. DECOL DECOL DECOL DECOL USE OF PDECOL SE TOUT. 1. NO. 3, JUNE 1977, PP. 44-472. DECOL DECOL SE TOUT. 1. NO. 14, NO. 3, JUNE 1977, PP. 44-472. DECOL DECOL SE TOUT. 1. SOLUTION TO THE EXACT TIME TOUT IS THEN DONE. DECOL SEE TOUT BLOW. SUMMARY OF SUGGESTED INPUT VALUES SIGHS SIGHS DECOL BREAD. DT S. 1.6-10 THE T. SOLUTION TO THE EXACT TIME TOUT IS THEN DONE. DECOL DECOL BREAD. DECOL BREAD. DECOL BREAD. DECOL DECO		10000	
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2. SINCOVEC. HF. AND N.K. MADSEN. SOFTWARE FOR NONLINEAR PARTIAL PDECOL DIFFERENTIAL EQUATIONS. ACM-TOMS. VOL. 1, NO. 3. SEPTEMBER 1975. PP. 232-260. 3. MINDARSH: A.C.: PRELIMINARY DOCUMENTATION OF GEARIB SOLUTION PDECOL OF IMPLICIT SYSTEMS OF OHDINARY UFFERENTIAL EQUATIONS WITH BADD JACOBIANS. LAWRENCE LIVERWORE LAM. UCID-30130. FEBRUARY PDECOL BANDED JACOBIANS. LAWRENCE LIVERWORE LAM. UCID-30130. FEBRUARY PDECOL OF IMPLICIT SYSTEMS OF OHDINARY UFFERENTIAL EQUATIONS WITH PDECOL PDECOL OF IMPLICIT SYSTEMS OF SUCKET TO THE TOTAL STAME OF THE POECOL PDECOL PDECOL PDECOL OF TAME OF THE TOTAL STAME		PDECOL	5*2
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405	Ī	METHODS USED IN PDECOL COMPUTE BASIS FUNCTION COEFFICIENTS. SO	COEFFICIENTS SO	PDECOL	90
		THE USER (AFTER A RETURN FROM PDECOL) MUST CALL THE PACKAGE ROUTINE	E PACKAGE ROUTINE	PDECOL	+04
		IPPROXIMATE SOLUTION VALUES A	T ANY DESIRED SPACE	PDECOL	904
		# TOUT. SEE THE COMMENTS	N SUBROUTINE VALUES	PDECOL	5 0+
•		PROPERLY MAKE THE CALL.		POECOL	01+
67				PDECOL	114
		10 CAN DE ACCESSEU EXTERNALL	Y BY THE USER	PDECOL	+12
		IF DESIMED. IT CONTAINS THE STEP SIZE LAST USED (SUCCESSFULLY)	SUCCESSFULLY).	PDECOL	EI.
		RESIDUAL EVALUATIONS (RES CA	LLS SO FAR	PDECOL	514
415		AND THE NUMBER OF MATRIX EVALUATIONS (PSETIB CALLS) SO FAR.	1 SO FAR.	PDECOL	+16
		DIFFUN CALLS ARE COUNTED IN WITH RESIDUAL EVALUATIONS.	ONS.	PDECOL	417
		4		PDECOL	9 .
	C IME OUIPUI PAKAMETEKS ARE	ARE '75 USED LAST, WHETHER SUCCES	SFULLY OR NOT.	POECOL	674
420	TOOL	VALUE OF T. IF INTEGRATION	MAS SUCCESSFUL	POECOL	421
•		AND THE INPUT VALUE OF INDEX WAS NOT 3+ TOUT IS	3+ TOUT 15	PDECOL	422
		FROM ITS INPUT VALUE. OTHE	RWISE . TOUT	PDECOL	443
		IS THE CURPENT VALUE OF T TO WHICH THE INTEGRATION	E INTEGRATION	PDECOL	454
		MAS BEEN COMPLETED.		PDECOL	425
425	INDEX = IN	D ON OUTPUT TO INDICATE RESU	LTS.	PDECOL	426
	•	STATE THE FOLLOWING VALUES AND MEANINGS.	5	POECOL	427
		CON WAS COMPLETED TO TOOL OR	BETOND.	Poecol	82
	7	IME INTEGRATION SAN ARETE ATTER TALLING TO PAUV FOUND TRAT EVEN AFTER DESIGNATION OF DV A SANTOD OF	A SACTOR OF	POECOL	674
919		LETO FROM ITS INITIAL VALUE		Poecos	15.4
;	~	AFTER SOME INITIAL SUCCESS. THE INTEGRATION WAS	RATION WAS	PDECOL	432
		HALTED EITHER BY REPEATED ERROR TEST FAILURES OF BY	FAILURES OF BY	PDECOL	+33
		A TEST ON EPS. TUO MUCH ACCURACY HAS BEEN REQUESTED.	BEEN REQUESTED.	PDECOL	434
	.	THE INTEGRATION WAS MALTED AFTER FAILING TO ACHIEVE	ING TO ACHIEVE	PRECOL	435
435		CORMECTOR CONVERGENCE EVEN AFTER REDUCING DT BY	CING DT BY A	PDECOL	+36
		_		PDECOL	437
	1	THIX ENCOUNTERED.	PROBABLY DUE TO STURAGE	POECOL	87
	ONE MEN TANK TANK TANK TANK	DVERMETTES. Index was a on indut, but the desided changes of	CHANGES OF	PD-101	7 4
940	,	S WERE NOT IMPLEMENTED BECAL	SE TOUT	PDECOL	
		MAS NOT BEYOND T. INTERPOLATION TO T # TOUT MAS	# TOUT WAS	PDECOL	244
		PERFORMED AS ON A NORMAL RETURN. TO THY AGAIN.	TO THY AGAIN.	PDECOL	644
		ILL AGAIN WITH INDEX # 4 AND	A NEW TOUT.	PDECOL	*
•	9	ILLEGAL INDEX VALUE,		POECOL	in •
445		ILLEGAL EPS VALUE.		POECOL	9 :
	C LB AN ATTERPO	AN ATTEMPT TO INTEGRATE IN THE BRONG DIRECTION.	DIRECTION. THE	POECOL	
		II IS SECOND WELLALIVE TO TO AN		Porcol	50 c
		MINT VALUE			7 4
450	TILEGAL	KORD VALUE		PDECOL	154
		NCC VALUE.		PDECOL	455
	TLLEGAL	NPDE VALUE.		PDECOL	453
	ILLEGAL	MF VALUE.		PDECOL	+2+
	ILLEGAL	RHEAKPOINTS - NOT STRICTLY INCHEASING.	CHEASING.	PDECOL	+55
455		INSUFFICIENT STONAGE FOR MOPK UN INORK.		PDECOL	+56
			****************	· PDECOL	457

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_	u		PDECOL	458
•	u		PDECOL	65
	C SUMMARY	OF ALL PACKAGE ROUTINES	PDECOL	094
094				461
	C POECOL	- STORAGE ALLOCATION, EMFOR CHECKING, INITIALIZATION, HEPEATED		294
-		CALLS TO STIFIE TO AUVANCE THE TIME.	PDECOL	663
-	TATECO	TATEROOM ATER COMPUTED BACTS FINALTION CORRESPONDED THE		* 4
465		DESTRUCTION CONTOUR BEST CONCINUS CONTROLLES	Porcol	0.4
				104
-	C INITAL	- INITIALIZATION, GENEMATION AND STOWAGE OF PIECEMISE POLY-		468
	، ن	NOMIAL SPACE BASIS FUNCTION VALUES AND DERIVATIVES, DET-	Poecol	694
	u (ERMINES THE BASIS FUNCTION COEFFICINTS OF THE PIECEMISE	PDECOL	470
0.4	ى د	POLYNOMIALS WHICH INTERPOLATE THE USERS INITIAL CONDITIONS.	Poecol	1.4
	C COLPNT	. GENERATION OF REJUINEU COLLOCATION POINTS.		473
	٠			474
		- F-SPLINE PACKAGE ROUTINES WHICH ALLOW FOR EVALUATION OF	PDECOL	475
6/4	TATEDY	ANY MESPLINE HASIS FUNCTION OF DEMINATIVE VALUE.	Poecol	9 1
			PDECOL	17.
	C VALUES	- GENERATION AT ANY POINT(S) OF VALUES OF THE COMPUTED	POECOL	419
	U		PDECOL	6 80
084	o c	PIECEWISE POLYNOMIALS. THE SUMPOUTINE IS CALLED ONLY MY	Poecol	194
	، د	TATE CORRA	Poecol	284
-	C STIFIR	- COME INTEGRATOR. TAKES SINGLE TIME STEPS TO ADVANCE THE	Porcol	707
•			Poficoi	4 H F
+85		WHICH ARE RELATED TO USE OF ADAMS OR GEAR TYPE INTEGRATION	PDECOL	486
	U	FORMULAS. CHOOSES PHUPER STEP SIZE AND INTEGRATION FORMULA	PDECOL	487
-	u	ORDER TO MAINTAIN A UESIKED ACCURACY. DESIGNED FUR ODE	PDECOL	984
-	o i	PROBLETS OF THE FORM A . (DY/DT) H 6(T.Y).	PDECOL	694
			PDECOL	064
	CCOSET	. GENERATES INTEGRATION FORMULA AND ERROR CONTROL CUEPFICIENTS.	Poecol	T 6 4
•	ر 20	GAINTINGN THE GAINING NE CARL AGE TO A CARL THE CALL THE	POECOL	264
	د برد د د		PDECOL	904
-			PDECOL	495
495	C DIFFUN	- COMPUTES A**-1 * G(T+Y) WHERE A AND G AKE AS ABOVE (STIFIB).	PDECOL	476
- `			PDECOL	104
-	¥00¥	- ADDS THE A MATRIX TO A GIVEN MATRIX IN MAND FORM.	POECOL	864
	C EVAL	- EVALUATES THE COMPUTED PIECEWISE POLYNOMIAL SOLUTION AND	PDECOL	005
200		•	PDECOL	501
	a ·			502
- •	SECN S	- EVALUATES THE FUNCTION G(T.Y) BY CALLING EVAL AND THE USER		503
-			PERCOL	100
505	C PSETIN	- GENERATES PROPER JACUBIAN MATHICES REUUINED HY THE MUDIFIED	Poecol	506
•		NEWTON MFTHOD.	PDECOL	507
- `			PDECOL	508
		OFRICKTS SAME ROLLE AS THE USER MODILINE DERIVE. COMPULES OFRICKATIVE APPROXIMATIONS BY USE OF FINITE DIFFERENCES.	PDECOL	\$0.5 0.10
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COMMON / SERSY, NISTAGE NOW NOW IN NOW IN SECULATION / SERSY, NISTAGE	COMMON / CERRAY EPS, PROMIT WHEN THE PROMISE COMMON / CERRAY EPS, PRAIR HAND HAND TO THE PROMISE COMMON / SIZES / MIN, KORN.NC.NP. NCD.S. NEO. 1901 100. 100. 100. 100. 100. 100. 100	L•MU-MB-NMI-NGML-NO AXDER C-NPD-NCPTS-NEGN-19 IBJ-IM4-IMS-186-187	*D.N.MFC.KFLAG.JSTART	PDECOL	631
COMMON /ISTRAT/ INJAINS/READER POECOL COMMON /ISTRAT/ LOUT POECOL POECO	COMMON /SIZES / MIKAGA-NCAPD-NCDTS-NEGN-19UAD COMMON /ISTART/ IN1,1W2.IU4-1W4-1W5-1W6-1W7-1W8-1W9-1W10+ COMMON /ISTART/ IN1,1W2.IU4-1W4-1W5-1W6-1W7-1W8-1W9-1W10+ IN11,1W1-1W2.IU4-1W4-1W4-1W5-1W6-1W7-1W18 IF (INDEX -EU- 0) 60 TO 60 IF (INDEX -EU- 0) 60 TO 70 IF (INDEX -EU- 0) 60 TO 80 IF (INDEX -EU- 0) 60 TO 820 IF (INDEX -EU- 0) 60 TO 320 IF (INDEX -EU- 0) 60	AADER C+NPD•NCPTS•NEGN•19 IEJ+IE4•IES•1E4•1E7	第の之	PDECOL	632
COMMON / STEES, NAW, OR NG.	COMMON /SIZES/ NIN, KOR, WARDING 190. COMMON /SIZES/ NIN, KOR, WARDING 190. COMMON /ISTARY IWI1.1W2: IW13.1W4.1W5.1W6.1W17.1W18 COMMON /IOUNIY / LOUT IWI1.1W12.1W13.1W14.1W5.1W13.1W14.1W19.1W19.1W19. IF (INDEX = Ce. 0) GO TO 60 IF (INDEX = Ce. 0) GO TO 60 IF (INDEX = Ce. 0) GO TO 80 IERID = CALCULATED AND PLACED IN COMMON. IERID = CALCULATED AND PLACED IN COMMON. IERID = CALCULATED AND PLACED IN COMMON. IF (IT = COMMON = C	C+NDO+NCD4S+NEDN+1E		PDECOL	633
COMMON /ISTARY INI, INI, INI, INI, INI, INI, INI, IN	COMMON /ISTARY INI, INIC, INI, INIC, INI, INIC, INI, INI		DAUAD	POECOL	634
F (INDEX = Eq. 2) 60 TO 60 F (INDEX = Eq. 2) 60 TO 80 F (INDEX = Eq. 3) 60 TO 80 F (INDEX = Eq.	COMMON / IOUNIT/ LOUT INTINIES : EU. 0 GO TO 60 IF (INDEX : EU. 0 GO TO 60 IF (INDEX : EU. 0 GO TO 80 IF (INDEX : ERROR CHERS ARE HADE HERE FERS FS. ITC-TOUT)**** DT. MIN'S KORD, NCC, NDEE MF HETHER THERE IS SUFFICIENT STORAGE DT. MIN'S KORD, NCC, NDEE MF HETHER THERE IS SUFFICIENT STORAGE CALCULATED AND HETHER THERE IS SUFFICIENT STORAGE CALCULATED AND HETHER THERE IS SUFFICIENT STORAGE IERD = IERD = IERD - 1 IF (INDEX .NE. 1) GO TO 320 IF (INDEX .NE. 2) NEC .NEC .GE. NOR! GO TO 320 IF (INDEX .NEC .NEC .NEC .NEC .NEC .NEC .NEC .NEC	֡	147.148.149.1410.	PDECOL	635
CAMMON TOWAIT / LOUT	F (INDEX .EG. 2) 60 TO 60 F (INDEX .EG. 4) 60 TO 70 IF (INDEX .EG. 4) 60 TO 70 IF (INDEX .EG. 4) 60 TO 70 IF (INDEX .EG. 3) 60 TO 70 IF (INDEX .EG. 4) 60 TO 80 IF (INDEX .EG. 3) 60 TO 320 IF (INDEX .EG. 6) 60 TO 320 IF (INDEX .EG. 6	C. 3. 14. 5.	3. IM16. IW17. IW18	PDECOL	636
If (INDEX *C4. 2) 60 TO 80 IF (INDEX *C4.	F (INDEX .Ed. 4) 60 TO 70 F (INDEX .Ed. 4) 60 TO 320 F (INDEX .NE. 1) 60 TO 320 F (INDEX			PDECOL	637
F (1MDEX = 19, 2) 60 TO 30 F (1MDEX = 19, 3) 60 TO 30 F (1MDEX = 10, 3) 60 TO 320 F (1MDEX = 10,	F (INDEX . Ed. 2) 60 TO TO F (INDEX . Ed. 3) 60 TO BO F (INDEX . ED. 6) ERROR CHECKS ARE MADE ON INDEX. EPS. (TO-TOUT)*OT, DT, NIT, KORDS. NIC.* NPDE. NF: METHER THE REMEKAPOINT SEQUENCE IS STRICTLY INCREASING. AND INCREM. PROBLEM DEPENDENT PARAMETERS ARE CALCULATED AND PLACED IN COMMON. F (INDEX . NE. 1) 60 TO 320 F (INDEX . IERID - 1 F (ITD = IERID	9		PDECOL	638
IF (INDEX *.EG. *.5) GO TO BU INDEX *.EG. *.6) GO TO BU INDEX *.EG. *.EG	IF (INDEX *EU.*) 60 TO 80 SEVERAL CHECKS ARE WERE FOR THE INDUT PARAMETERS HAVE LEGAL VALUES. ERROR CHECKS ARE MADE ON INDEX; EPS. (TO-TOUT)*0T; HAVE LEGAL VALUES. ERROR CHECKS ARE MADE ON INDEX; EPS. (TO-TOUT)*0T; DI, MINT, KORD, NCC. NPDE, NF. HHETHER THE REAKPOINT SEQUENCE IS STRICTLY INCREASING. AND WHETHER THERE IS SUFFICIENT STORAGE STRICTLY INCREASING. AND WHETHER THERE IS SUFFICIENT STORAGE STRICTLY INCREASING. AND WHETHER THERE IS SUFFICIENT STORAGE CALCULATED AND PLACED IN COMMON. IERID = 1ERID = 1 IF (EPS *LE. 0.) 60 TO 320 IF (INDEX *NE. 1) 60 TO 320 IF (INDEX *NE. 1) 60 TO 320 IF (INDEX *NE. 1) 60 TO 320 IF (IND. ERID = 1 IF (NO. *LT. 1) 60 TO 320 IF (KOR *LT. 1) 60 TO 320 IF (KOR *LT. 1) 60 TO 320 IF (KOR *LT. 2.) 60 TO 320 IF (NO. *LT. 2.) 60	9		PDECOL	070
	F (IMDEX * 10, 3) 60 TO 90 SEVERAL CHECKS ARE MADE WERE TO DETERMINE IF THE INPUT PAHAMETERS HAVE LEGAL VALUES, ERENAR CHECKS ARE MADE WERE TO DETERMINE IF THE INPUT PAHAMETERS THE ALCOHOLS, NCC. NPDE, NF. WHETHER THERE IS SUFFICIENT STORAGE STRICTLY INCREASING, AND WHETHER THERE IS SUFFICIENT STORAGE PROVIDED FOR WORK AND INORK, PROBLEM DEPENDENT PARAMETERS ARE CALCULATED AND PLACED IN COMMON. IF INDEX ,NE , 1			POECOL	0
SEVERAL CHECKS ARE MADE HERE TO DEFERRINE IF THE INDUT PARAMETERS	SEVERAL CHECKS ARE MADE WERE TO DETERMINE IF THE INPUT PARAMETERS HAVE LEGAL VALUES. ERROR CHECKS ARE MADE ON INDEX, EPS, (TO-TOUT) 401, NINT, KORD, NCC. NPDE, MF, WHETHER THER THE REARPOINT SEQUENCE IS STRICTLY INCREASING, AND WHETHER THERE IS SUFFICIENT STORAGE PROVIDED FOR WORK AND IMORK, PROBLEM DEPENDENT PARAMETERS ARE CALCULATED AND PLACED IN COMMON. IERID = 1681D = 1 IF (170 - 1001) 401 60 TO 320 IERID = 1681D - 1 IF (171 - 1001) 401 60 TO 320 IERID = 1681D - 1 IF (172 - 1001) 401 60 TO 320 IERID = 1681D - 1 IF (173 - 1001) 401 60 TO 320 IERID = 1681D - 1 NN = NAT IF (NN - 17 3 60 TO 320 IERID = 1681D - 1 NN = NAC IF (NC - 17 2 .0R. NCC .6E. KOR) 60 TO 320 IERID = 1681D - 1 NO = NCC IF (NPDE LT. 2 .0R. NCC .6E. KOR) 60 TO 320 IERID = 1681D - 1 NPD = NPDE NPDE =	9			7
STREAM, CHECKS ARE WADE WIER TO DETERMINE IF THE INPUT PRAKATERS PDECOL. STREAM, VALUES, ERROR CHECKS ARE WADE WO INDEX, EPS, (TO-TOUT) *** OT DECOL. STRICTLY INCRESSION *** NEW THER IS SUFFICIENT SCAUENCE IS DECOL. PROVIDED FOR WORK AND JUGKK, PROBLEW DEFRANCENT SCAUENCE IS DECOL. PROVIDED FOR WORK AND JUGKK, PROBLEW DEFRANCENT SCAUENCE IS DECOL. PROVIDED FOR WORK AND JUGKK, PROBLEW DEFRANCENT SCAUENCE IS DECOL. IERTO = IERTO = 1 IF (IRD = 16 FID = 1	SEVERAL CHECKS ARE MADE HERE TO DETERRINE IF THE INDIT PARAMETERS DT. MINT. KORD. NCC. MODE. WERE TO DETERRINE IF THE INDIT PARAMETERS DT. MINT. KORD. NCC. MODE. WETHER THERE THE BREAKPOINT SEQUENCE IS STRICTLY INCREASING. AND WHETHER THERE IS SUFFICIENT STORAGE STRICTLY INCREASING. AND WHETHER THERE IS SUFFICIENT STORAGE ERICLATED AND PLACED IN COMMON. IERID = IF (INDEX .NE. 1) 60 TO 320 IERID = IERID - 1 IF (ITD-TOUT) *** O.** O.** O.** O.** O.** O.** O.**		1		249
DT. WILLY TAKEN LATERS AND HETTHER THE RELAKADINT SEQUENCE IS DECOL. DT. WINT. KORD. NCC. NDG. HF. HETHER THE RELAKADINT SEQUENCE IS DECOL. STRECTLY TAKERSING, AND HETHER THERE IS SUFFICIENT SEQUENCE IS PRECOL. CALCULATED AND DIACED IN LOOMAN. PARAMETERS ARE POECOL. IERDD = -6 IF IINDEX .ME. 1) 60 TO 320 IF RED = IERDD - 1 IF (10 - 1001) *** IF (10 - 1001)	MANE LEGAL VALUES, ERROR CHECKS ARE MADE ON INDEX, EPS, (10-1001)*** THANE LEGAL VALUES, ERROR CHECKS ARE MADE ON INDEX, EPS, (10-1001)*** STRICTY INCREASING, AND MHETHER THERE IS SUFFICIENT STORAGE CALCULATED FOR WORK, AND INGRK, PROBLEM DEPENDENT PARAMETERS ARE CALCULATED AND PLACED IN COMMON. IERID = -6 IF (INDEX NE. 1) 60 TO 320 IERID = IERID - 1 IF (EPS LE. 0.) 60 TO 320 IERID = IERID - 1 IF (10 - Ed. 0.) 60 TO 320 IERID = IERID - 1 IF (10 - Ed. 0.) 60 TO 320 IERID = IERID - 1 IF (NIN *IT 1) 60 TO 320 IERID = IERID - 1 NOC **** NOC **** IERID = IERID - 1 IERID + IERID + 1 IERID	TO DETERMINE IF TH	THE INPUT PARAMETERS		643
TREATED = 16 TO 320 IF (170 - 100 E 2 10 C) IF (170 - 100 E 2 10 E 2 10 C) IF (170 - 100 E 2 10 E 2	DT. NINT: KORD. NCC. NDGE. WF. WHETHER THE BREADING SEQUENCE IS STRICTLY INCREASING. AND WHETHER THERE IS SUFFICIENT STORAGE CALCULATED FOR WORK AND INCREASING. AND WHETHER FORBLEW DEPENDENT PARAMETERS ARE CALCULATED AND PLACED IN COMMON. IERID = 6 IF (INDEX. NE. 1) 60 TO 320 IERID = 1ERID = 1 IF (TP = TOUT) *** OF 0 320 IERID = 1ERID = 1 IF (TP = TOUT) *** OF 0 320 IERID = 1ERID = 1 IF (NIN LT. 1) 60 TO 320 IERID = 1ERID = 1 IF (NIN LT. 1) 60 TO 320 IF (NO " LT. 2 "OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 "OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " LT. 2 " OR" NCC " GE" KOR" GO TO 320 IF (NO " C" TO	ECKS ARE MADE ON IN	INDEX, EPS, (TO-TOUT).		944
STRICTLY INCREASINGS AND WHETER IS SUFFICIENT STORMER CALCULATED AND PLACED IN COMMON, PREME IS SUFFICIENT STORMER CALCULATED AND PLACED IN COMMON, PARAMETERS ARE POECOL IERID = -6 IF INDEX *NE. 1 60 TO 320 IF RED = IERID - 1 IF (EPS *LE. 0.) 60 TO 320 IERID = IERID - 1 IF (TO *CO *0.) 60 TO 320 IERID = IERID - 1 IF (TO *CO *0.) 60 TO 320 IERID = IERID - 1 IF (TO *CO *0.) 60 TO 320 IERID = IERID - 1 IF (TO *CO *0.) 60 TO 320 IERID = IERID - 1 IF (MR *LT. 1) 60 TO 320 IERID = IERID - 1 IF (MR *LT. 2 *OR * KOR *GT, 20) 60 TO 320 IERID = IERID - 1 IF (MR *LT. 2 *OR * NCC *GE * KOR) 60 TO 320 IF (MR *C *LT. 2 *OR * NCC *GE * KOR) 60 TO 320 IF (MR *ERID - 1 IF (MR *REZ*AND*M**NE.21*AND*M**NE.12*AND*M**NE.11) 60 TO 320 IERID = IERID - 1 IF (MR *REZ*AND*M**NE.21*AND*M**NE.11) 60 TO 320 IERID = IERID - 1 IF (MR *REZ*AND*M**NE.21*AND*M**NE.11) 60 TO 320 IERID = IERID - 1 IF (MR *REZ*AND*M**NE.21*AND*M**NE.11) 60 TO 320 IERID = IERID - 1 IF (MR *REX*IK) *GE * KORPT(K*1)) 60 TO 320 IERID = IERID - 1 IF (MR *REX*IK) *GE * KORPT(K*1)) 60 TO 320 IERID = IERID - 1 IF (MR *NE*Z*AND*M**	TERID = TERID = 1 IF (TT = TOTAL = NOT	F. EYETYEK TYE BREA	REAKPOINT SEQUENCE IS	POECOL	645
PROUNDED FOR WORK MOUNT MOUNT WORKEN DEPENDENT PARAMETERS ARE PROCULATED AND PLACED IN COMMON. IERID = IERID - 1	DROVIDED FOR WORK AND INCOMMON. IERID = -6 IF (INDEX "NE. 1) 60 TO 320 IERID = IERID - 1 IF (EPS "LE. 0.) 60 TO 320 IERID = IERID - 1 IF (INDEX "NE. 1) 60 TO 320 IERID = IERID - 1 IF (INDEX "LE. 0.) 60 TO 320 IERID = IERID - 1 IF (INDEX "LT. 1) 60 TO 320 IERID = IERID - 1 NIN " NIN "LT. 1) 60 TO 320 IERID = IERID - 1 NOS = NORD IF (NOS "LT. 3 "OR" NOS "GT. 20) 60 TO 320 IERID = IERID - 1 NOS = NORD IF (MPDE "LT. 2 "OR" NCC "GE. NOR") 60 TO 320 IERID = IERID - 1 NPD = NPDE NPD = NPDE NPD = NPDE NPD = NPD = NPD = 1 NPD = NPD =	THERE IS SUFFI	TICIENT STORAGE	PDECOL	9 0
CALCULATED AND PLACED IN COMMON. POECOL	IERID = -6 IF (INDEX NE. 1) 60 TO 320 IERID = IERID - 1 IF (EPS LE. 6.) 60 TO 320 IERID = IERID - 1 IF (IT 0-TOUT)***********************************	PROBLEM DEPENDENT	IN PARAMETERS ARE	PDECOL	740
	IERID = -6 IF (INDEX »NE. 1) 60 TO 320 IERID = IERID - 1 IF (INDEX »NE. 1) 60 TO 320 IERID = IERID - 1 IF (ITD-TOUT)*DT .6T .0.) 60 TO 320 IERID = IERID - 1 IF (IND » LICR ID - 1 IF (INDE » LICR ID - 1 IF (INDE » LICR ID - 1 IF (INDE » LICR ID » I IF (IND » IERID » I IF (IND » LICR ID » I IF (IND » IERID » I IF (IND » ICR ID » I IF (IND » IERID » I IF (IND » IERID » I IF (IND » ICR ID » I IF (IND » IERID » I IF (IND » IERID » I IF (IND » ICR ID » I IF (IND » I	· NOT		POECOL	646
	IF (1DEX .NE. 1) 60 TO 320 IF (EPS .LE. 0.) 60 TO 320 IF (EPS .LE. 0.) 60 TO 320 IF (1D = IER1D - 1) IF (1T - 10			PDECOL	649
	IF INDEXE. 1) 60 TO 320 IF RID = IERID - 1 IF (EPSE. 0.) 60 TO 320 IF (10 - 10 - 1) IF (10 - 1) IF (1	6		POECOL	900
		350		Porcol	100
	IERID = IERID I IF (170-TOUT) **** 1	•		7020	700
F (170 = 127) 10 10 10 10 10 10 10 1				FUELOR	5.0
		40 TO 320		100 E	***
F (DT * EG* 0.0) GO TO 320		38.00.00		70200	659
	IERID = IERID - 1 NIN = NINI IF (NIN .LT. 1) 60 TO 320 IF (NIN .LT. 1) 60 TO 320 IF (NOR .LT. 3 .0R. KOR .GT. 20) 60 TO 320 IF (KOR .LT. 3 .0R. KOR .GT. 20) 60 TO 320 IF (KOR .LT. 2 .0R. NCC .GE. KOR) 60 TO 320 IF (NCC .LT. 2 .0R. NCC .GE. KOR) 60 TO 320 IF (NDE .NDE .NDE .NDE .NDE .NDE .NDE .NDE .	ě		אסגים היינה	000
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				102201	
	IF THIN SET 1. 17 50 TO 320 IF TROP SET 1. 2 .0R. KOR .6T. 20) 60 TO 320 IF TROP SET 1. 3 .0R. KOR .6T. 20) 60 TO 320 IF TROP SET 1. 2 .0R. NCC .6E. KOR) 60 TO 320 IF TROP SET 1. 2 .0R. NCC .6E. KOR) 60 TO 320 IF TROP SET 1. 3 .0R. NCC .6E. KOR) 60 TO 320 IF TROP SET 1. 3 .0R. NCC .6E. KOR) 60 TO 320 IF TROP SET 1. 3 .0R. NCC .6E. KOR) 60 TO 320 IF TROP SET 1. 3 .0R. NCC .3. AND .MF. NE. 12. AND .MF. NE. 11) 60 TO 320 IF TROP SET 1. SET 1			Porcol	5 C C
	IF KOR = LETID = 1 IF KOR = LT = 3 .0R. KOR .6T. 20) GO TO 320 IF KOR .LT = 3 .0R. KOR .6T. 20) GO TO 320 IF RID = IERID = 1 NPD = ROPE NPDE = NPDE NPDE = NPDE NPDE = NPDE IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320 IF (MPDE = LT = 1) GO TO 320			מבנה ה	000
					100
	IERID = IERID - 1 NC = NCC IF (NCC -LT, 2 - 0R. NCC -GE, KOR) GO TO 320 IFRID = IERID - 1 NPD = APDE NPDE = NPD-NPD IF (NPDE -LT, 1) GO TO 320 IFRID = IERID - 1 IERID = IERID - 1 IERID = IERID - 1 IERID - 1 DO 10 K=1.NIN IFRIRRET(K) - GE, KRKPT(K+1)) GO TO 320	67 301 60 10	000	מינים מינים	799
	NC = NCC IF (NCC .LT. 2 .OR. NCC .GE, KOR) GO TO 320 IRPD = IERID - 1 NPDE = NPDE NPDE = NPDE IF (NPDE .LT. 1) GO TO 320 IF (NPDE .LT. 1) GO TO 320	21 22 123	240	POECO	5 4 4 4 4 4
	IF (NCC -LT. 2 .0R. NCC .6E. KOR) 60 TO 320 IERID = IERID - 1 NPD = NP			POFCOL	949
	IERID = IERID - 1 NPO = NPOE NPOE = NPOE NPDE2 = NPOENPO IF (NPDE eLT. 1) GO TO 320 IF (NP ER. 22. aND. NF. NE. 12. aND. NF. NE. 11) GO TO 320 IERID = IERID - 1 IERID = IERID - 1 IERID - IERID - 1	C .GE. KOR) 60 TO 3	320	PDECOL	999
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MPDE2	MPDE2 = NPD-MPO IF (MPDE -LT 1) GO TO 320 IERID = IERID - 1 IF (MF.NE.22.aND.MF.NE.21.AND.MF.NE.12.AND.MF.NE.11) GO TO 320 IERID = IERID - 1 DO 10 K=1.NIN IF (XBKPT(K) .GE. XRKPT(K+11) GO TO 320			PDECOL	668
IF (NPDE .LT. 1) 60 TO 320 PDECOL IERID = IERID - IF (NBKPT(K) .6E. XRKPT(K+1)) GO TO 320 PDECOL IF (NBKPT(K) .6E. XRKPT(K) .6E. XRKPT(K) IF (NBKPT(K) .6E. XRKPT(K) .6E. XRKPT(K) .6E. XRKPT(K) IF (NBKPT(K) .6E. XRKPT(K) .6E. XR	IF (MPDE -LT. 1) GO TO 320 IERID = 1ERID - 1 IERID = 1ERID - 1 IERID = 1ERID - 1 DO 10 K=1.NIN IERIRCH (K+1) GO TO 320			PDECOL	669
	IERID = IERID - 1 IF (MF.NE.22.aND.MF.NE.21.AND.MF.NE.12.AND.MF.NE.11) 60 TO 320 IERID = IERID - 1 DO 10 K=1.NIN IF(ROKPT(K) .GE. XAKPT(K+1)) GO TO 320	50		PDECOL	670
IF (MF.NC.22.AND.MF.NE.21.AND.MF.NE.12.AND.MF.NE.11) 60 TO 320 PDECOL IERIO = 1 FRIO - 1 IERIO = 1ERIO - 1 IF(NBKPTIN) GE. XAKPT(K+1)) GO TO 320 IF(NBKPTIN) GE. XAKPT(K+1)) GO TO 320 MCPTS = KOH + (NIN - 1) * (KOH - NCC) MCPTS = KOH * (NIN - 1) * (KOH - NCC) MCPTS = KOH * (NIN - 1) * (KOH - NCC) MCPTS = MOPE * NCPTS MU = KOH-1)*NPDE - 1 PDECOL PDECOL PDECOL PDECOL PDECOL PDECOL MCPTS MU = MCPTS * MOPE * NCPTS MU	IF (MF.NE.22.AND.MF.NE.21.AND.MF.NE.12.AND.MF.NE.11) GU TO 320 IERID = IERIU - 1 DO 10 K=1.NIN IF(XBKPT(K) .GE. XAKPT(K+1)) GO TO 320			POECOL	110
	IERID * IERIO - 1 DO 10 K#1.NIN IF(ROKPT(K) .GE. XAKPT(K+1)) GO TO 320	1.AND.MF.NE.12.AND.	4D.MF.NE.111 60 TO 320	PDECOL	672
DO 10 K=1.NIN DO 10 K=1.NIN DO 10 K=1.NIN DO 10 K=1.NIN DO 10 320 DOECOL	DO 10 Kelenin IF(RBKPT(K) .GE. XGKPT(K+1)) GO TO 320			PDECOL	673
	IF CRAFFICE SET ABAPICA-11) GO TO 320			POECOL	470
CONTINUE CONTINUE NEDNS NOTE = NCC) NEGNS NOTE = NCPTS NC N		(N+1)) 60 TO 320		POECOL	675
DN # NPDE - NCPTS # KOR-1)**NPDE - 1 PDECOL PDECOL PDECOL PDECOL PDECOL PDECOL PDECOL PDECOL	CONTINUE TO CALL TO CA	1		101304	9 1
## # MPDE - 1 PDECOL ### # ## # ## # # # # # # # # # # # #	* 1212 * 12 * 1203 * 2007 * 2007 * 2004 * 2004	•			- 64
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705	m NCPTS 4		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
710	S. IF PRO FECK FO		707 708 710 710
715	CALL INITAL(KOR*WORK(IM1)*#ORK(IM6)*XBKFT*#ORK(IM2)*#ORK(IM3)* • **********************************	PDECOL 701 701 701	111 121 121 131 131 131 131 131 131 131
720	•	PDECOL PDECOL PDECOL	715 715 717 717
725	DO 20 K=1.NPDE I = K + NPDE=(K-1) = 1 IF(WORY(IN14+1) - EQ. D.0 .AND. WUFK(IN15+1) .EQ. U.0) - IQUAD = 1		720 721 721 722 723
730		Poecol Poecol Poecol Poecol	725 725 726 727
735	IF(#ORK(IW]4+I) .EG. 0.U .AND. #ORK(IW]5+I) .EG. 0.U) * IGUAD = 1 30 CONTINUE # I HI + I UJAD*NPDE # I # I	POECOL POECOL POECOL	729 730 732 732
740		PDECOL	734 735

TINITI TI	18STOR R 1817 + NEON-(3*RL+1) - 1 1f (18SAVE - LT. 18STOR) GO TO 335	PDECOL	738
COLLACTOR OF THE POST OF THE P	TAL VALUES OF CMAX OTHER THAN THOSE SET BELLO APE DESIRED.	PDECOL	750
C C C C C C C C C C C C C C C C C C C	THAT IN PROPER VALUES OF CHAN FOR THE PROBLEM FOR FORE THAT INC. IMPORTANT AS CHOOSING FOR (SEE ABOVE). SINCE FROMS AND	PDE COL	7.5
O O O O O O O O O O O O O O O O O O O	D RELATIVE TO CHAK. IF VALUES FOR DIMN OR DIMN. THE	PDECOL	1
5	BE SET GELOW.	PDECOL	9
	00 S0 I # 1.NEGN	Poecol	2
	[] B [b] DROTHALTOLLARD VANDA CHORE CHIRARIA VANDA	PDECOL	2
	HORY (INTO-IN) H HORY (INTO-IN)	PDECOL	75
21		PDECOL	753
# C		POECOL	S:
	D122 H ABS(01)	POFCOL	. .
010	DTUSED = 0.	PDECOL	757
EPS	EPSC = EPS	PDECOL	5
272	201 B 201 C B	POECOL	759
763		PUECOL	2
		PDECOL	762
101	NOW! - NEONAL	PDECOL	763
NHCUT		POECOL	164
101 101	77-17-0 W C	POFCOL	
10.0	IF (TO .EQ. TOUT) GO TO 460	PDECOL	767
60 DTM	DTHX = ABS(70UT-10UTP)*10.	POECOL	
C	60 TO 140	Poecol	60.
7.0	X # ABS(10U1-10U1P)+10.	POECOL	77.
	IF ((T-TOUT) +DTC .0E. 0.) 60 TO 340	PDECOL	772
	60 TO 150	PDECOL	77
		PDECOL	77
71 08 72	IF ((T=TOUT)*DIC .GE. 0.) 60 10 300	POECOL	775
		102304	2 2 2
		POFCOL	11
09	60 TO 100	PDECOL	770
J		PDECOL	780
90 DTM		PDECOL	781
100 IF	IF ((T+DTC) .EQ. T) WRITE (LOUT, 110)	PDECOL	762
110 FOR		PDECOL	783
C TAKE A	C	Poecol	784
Creen		PDECOL	186
	CALL STIFIB (NEON-WORK(IWIO), WORK(IW4), WORK(IW5), WORK(IW6),	PDECOL	787
•	BORK (121) .BORK (128) .BORK (1217) . IBORK (1218) .BORK - 120RK)	PDECOL	897
2	24 [33 · · ·	Poecol	9 6
60 10	(120. 160.	PDECOL	2 2
C KELAG		Poecoi	192

,	120 CONTINUE	PDECOL	194
009	3 - 2 - 3 - 3 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4	PDECOL	275
	C MOHMAL RETURN FHOM INTEGHATOH.	POECOL	196
		PDECOL	7.77
	C THE MEIGHTS CMAX(1) ARE UPDATED. IF DIFFERENT VALUES AME DESIMED.	PDECOL	198
		PUECOL	00%
805	C FOW THE MACHINE PRECISION.	PUECOL	9
		PDECOL	601
	C ANY OTHER TESTS OR CALCULATIONS THAT AME MEWLINED AFTER EVERY	PUECOL	805
	C STEP SHOULD RE INSERTED MEME.	PUECOL	603
	u	PDECOL	404
910	C IF INDEX = 3. SAVEL IS SET TO THE CURRENT C VALUES ON METURN.	PDECOL	808
	C IF INDEX = 2. DT IS CONTROLLED TO HIT TOUT (WITHIN HOUNDOFF	PDECOL	909
	C ERPOR), AND THEN THE CURRENT C VALUES ARE PUT IN SAVEL ON RETURN.	PDECOL	407
	C FOR ANY OTHER VALUE OF INDEX. CONTROL METURNS TO THE INTEGRATOR	PDECOL	909
	C UNLESS TOUT MAS HEEN REACHED. THEN INTEMPOLATED VALUES OF C AKE	PDECOL	608
818	C COMPUTED AND STORED IN SAVEI ON RETURN.	PUECOL	019
	C IN INTERPLEATION IS NOT DESIMENT THE CALL OF INTERPLEATION OF SECURITIES OF SECURITIES OF SECURITIES OF SECURITIES OF SECURE OF SECURITIES O	POECOL	118
		Pof COL	413
	0 11 0	PDECOL	416
820	DO 130 I # 1.NFDN	PDECOL	815
•	and the second s	POECOL	616
	AYI H ABS(#08K(I#10+II))	PDECOL	417
	BORK (IB4+11) HAZAK1 (SKEO+4X1)	102	-
	130 D # D + (AY1/2015(124+11))+	PUECOL	819
825	D # D+(UROUND/EPS)++2	PDECOL	620
	IF (D GT. FLOAT(NEGN)) 60 TO 240	PDECOL	821
	IF (INDEX -EG. 3) 60 TO 3+0	PDECOL	822
	IF (INDEX .Ew. 2) 60 TO 150	PDECOL	623
	140 IF ((T-TOUT)*DTC .LT. 0.) 60 TO 100	PDECOL	824
930	CALL INTERP(IDUI-BORK(IBIC)*NEGN*BOKK(I%6))	PDECOL	825
	60 TO 360	PDECOL	979
	U	PUECOL	627
	150 IF (((T*DIC)-TOUT)*DIC .Lt. 0.) GU TO 160	PDECOL	828
	IF (ABS(T-TOUT) .LE. 100.*UROUND*DTMX) GO TO 340	PDECOL	628
635	IF ((T-TOUT)*DIC .GE. 0.) 60 TO 3.0	PDECOL	830
	DTC = (TOUT - T) + (1 +.* UKOUND)	PDECOL	831
		PDECOL	832
	60 10 100	POECOL	10 T
040	C ON AN EDDOUGHTHING FROM INTEGRATOR, AN IMMEDIATE DETUGN OCCURS IF	POFCOL	* **
•	C KFLAG H -2 OF -4. AND MECOVERY ATTEMPTS AME MADE OTHERWISE.	PUECOL	836
	C TO RECOVER, DI AND DIMN AME RENUCED BY A FACTOM OF .1 UP TO 10	PDECOL	837
	C TIMES BEFORE GIVING UP.	PDECOL	4 36
		PUECOL	939
845	160 WHITE (LOUT-170) T	PDECOL	840
	170 FORMAT(//35M KFLAG = -1 FHOM INTEGHATOM AT T = .E16.H/	PDECOL	1 4
	+ POI EXECT TEST TABLED SITT ACC (CI) # CIRINA	PDECOL	Q •
	180 IF CHICACOUT - E-4 10 60 10 200	POECOL	843
4	NATION NATION - 1	PUECOL	e i
30	ZE-01-0 N ZE-0	מסינטו	n 4
		FUECOL	0 1
	190 FOREAT (2011 - DI HAS REDUCED TO PETE. H.	PDFCOL	1
	. 26H AND STEP WILL SE METHIED//)	PDECOL	0 p
855	JSTART # -1	PDECOL	650

200 WOITE (LOUT-29) 210 FORMATI(1230) TOTO 220 WOITE (LOUT-29) 220 WOITE (LOUT-29) 220 WOITE (LOUT-29) 220 FORMATI(1230) TOTO 230 FORMATI(1230) TOTO 240 WOITE (LOUT-29) 250 WOITE (LOUT-2	200 WRITE (1007:210) 210 FORMATI(7240 PROBLEM APPEANS UNSOLVABLE WITH GIVEN INPUT/) PRECOL 220 FORMATI(7240 PROBLEM APPEANS UNSOLVABLE WITH GIVEN INPUT/) PRECOL 230 FORMATI(7240 THE REQUESTED ERROW IS SMALLER THAN CAN BE HANDLED/) PRECOL 240 WRITE (1007:250) T PROBLEM INTEGRATION AT T = *Elb.8/ PRECOL 250 FORMATI(724) THE REQUESTED ERROW IS SMALLER THAN CAN BE HANDLED/) PRECOL 250 FORMATI(7240 THE STREAMING WAITED BY DAILYRE AT T = *Elb.8/ PRECOL 250 FORMATI(7250) T PROBLEM TO E ATTAINED FOR TT = *Elb.8/ PRECOL 250 WRITE (1007:250) T PROBLEM TO E ATTAINED FOR TT = *Elb.8/ PRECOL 250 WRITE (1007:250) T PROBLEM TO E ATTAINED FOR TT = *Elb.8/ PRECOL 250 WRITE (1007:250) T PROBLEM TO E ATTAINED FOR TT = *Elb.8/ PRECOL 250 WRITE (1007:250) T PROBLEM TO E ATTAINED FOR TT = *Elb.8/ PRECOL 250 WRITE (1007:250) T PROBLEM TO E ATTAINED FOR TT = *Elb.8/ PRECOL 250 WRITE (1007:250) T PROBLEM TO E ATTAINED FOR THE WAITH FOR THE WAITH TO E ATTAINED FOR T	200 WRITE (LOUT-230) T-DITE 200 FILE (LOUT-250)			60 TO 100		PDECOL	651
210 FORMATI//23H MEDDBLEM APPEANS UNSOLVABLE WITH GIVEN INPUT//) 220 WHITE (LOUT.23D) T.DTC 230 WHITE (LOUT.23D) T.DTC 240 WHITE (LOUT.23D) T.DTC 250 WHITE (LOUT.23D) T.DTC 251 WHITE (LOUT.23D) T.DTC 252 WHITE (LOUT.23D) T.DTC 253 WHITE (LOUT.23D) T.DTC 254 WHITE (LOUT.23D) T.DTC 255 WHITE (LOUT.23D) T.DTC 256 WHITE (LOUT.23D) T.DTC 257 WHITE (LOUT.23D) T.DTC 258 WHITE (LOUT.23D) T.DTC 259 WHITE (LOUT.23D) T.DTC 250 WHITE (LOUT.23D) T.DTC 250 WHITE (LOUT.23D) T.DTC 250 WHITE (LOUT.23D) T.DTC 250 WHITE (LOUT.23D) T.DTC 251 WHITE (LOUT.23D) T.DTC 252 WHITE (LOUT.23D) T.DTC 253 WHITE (LOUT.23D) T.DTC 254 WHITE (LOUT.23D) T.DTC 255 WHITE (LOUT.23D) T.DTC 256 WHITE (LOUT.23D) T.DTC 257 WHITE (LOUT.23D) T.DTC 258 WHITE (LOUT.23D) T.DTC 259 WHITE (LOUT.23D) T.DTC 250 WHITE (LOUT.23D)	210 FORMATIONAL PROBLEM APPEANS UNSOLVABLE WITH GIVEN INPUT/) POECOL 220 WHITE (LOUT-230) T-DTC 230 WHITE (LOUT-230) T-DTC 240 WHITE (LOUT-230) T-DTC 250 WHITE (LOUT-	210 FORMATICACENT PROBLEM APPEANS UNSOLVABLE WITH GIVEN INPUT//) PRECOL 60 TO 340 220 WRITE (LOUT-230) T-DTC 230 WRITE (LOUT-230) T-DTC 240 WRITE (LOUT-230) T-DTC 250					Poecol	7 C S S
60 10 340 220 WATE (LOUT-230) T-DTC 230 FORMATI(1/254 THE REQUESTEU ERROR IS SMALLER TAAN CAN BE MANDLED.) PRECOL 6 0 10 340 250 FORMATI(1/254 THE REQUESTEU ERROR IS SMALLER TAAN CAN BE MANDLED.) PRECOL 250 FORMATI(1/254 THE REQUESTEU ERROR IS SMALLER TAAN CAN BE MANDLED.) PRECOL 250 FORMATI(1/254 THE REQUESTEU ERROR THE MACHINE PRECISION) PRECOL 250 FORMATI(1/254 THE SAID THE MATHINE FOR THE MACHINE PRECISION) PRECOL 260 FORMATI(1/254 THE SAID THE MATHINE FOR THE MACHINE PRECISION) PRECOL 260 FORMATI(1/254 THE SAID THE MATHINE ERROR THE MACHINE PRECISION) PRECOL 260 FORMATI(1/254 THE SAID THE MATHINE ERROR THE MACHINE PRECOL 260 FORMATI(1/254 THE SAID THE MATHINE ERROR THE MACHINE PRECOL 260 FORMATI(1/254 THE MATHINE ERROR THE MACHINE PRECOL 260 FORMATI(1/254 THE MATHINE ERROR THE TELEGE) PRECOL 260 FORMATI(1/254 THE MATHINE ERROR THE TELEGE) PRECOL 260 FORMATI(1/254 THE TELEGET) THOUT THE TELEGET PRECOL 260 FORMATI(1/254 THE THOUT THE TELEGET PRECOL 260 FORMATI(1/254 THE THOUT THOUSE THE TOTAL THE THE THOUT THE TELEGET PRECOL 260 FORMATI(1/254 THE TELEGET THOUT THE TOTAL THOUSE THE TOTAL THE TOTAL THOUSE THE TOTAL THE TELEGET THOUSE THE TOTAL THOUSE THE TOTA	60 10 340 220 WRITE (LOUT-230) T-OTC 240 WRITE (LOUT-230) T-OTC 250 WRITE (LOUT-230	60 10 340 220 WATE (LOUT-230) T-DTC 240 WATE (LOUT-230) T-DTC 240 WATE (LOUT-230) T-DTC 240 WATE (LOUT-230) T-DTC 250 FORMATI//35H FREE FROM FAILED BY DELYER AT T = .E1b.*K) 250 FORMATI//35H FREE FROM FAILED BY DELYER AT T = .E1b.*K) 250 FORMATI//35H FREE FROM FAILED BY DELYER AT T = .E1b.*K) 250 FORMATI//35H FREE FROM FAILED BY DELYER AT T = .E1b.*K) 251 FORMATI//35H FREE FROM FAILED BY DELYER AT T = .E1b.*K) 252 FORMATI//35H FREE FROM FAILED BY DELYER AT T = .E1b.*K) 253 FORMATI//35H FREE FROM FAILED BY DELYER BY THE MACHINE PRECISION/) PRECISION FOR BY THE LOUT-230) T = .2 HOW HATELED HOT BE ACHIEVED/) 254 FORMATI//35H FREE FROM FAILED BY DELYER BY T = .E1b.*K) 255 FORMATI//35H FREE FROM FAILED BY DELYER BY T = .E1b.*K) 256 FORMATI//35H FREE FROM FAILED BY DELYER BY T = .E1b.*K) 257 FORMATI//35H FREE FROM FAILED BY DELYER BY T = .E1b.*K) 258 WAITE (LOUT-230) T ** TOUT-BELD.** BY HATELES FROM FAILED BY THE FROM FAILED BY TOUT-BELD.** BY THE FROM FAILED BY THE FROM FAILED BY TOUT-BELD.** BY THE FROM FAILED BY THE FROM FAILED BY THE FROM FAILED BY THE FROM FAILED BY THE BY THE FROM FAILED BY THE FROM FAILED BY THE BY T	•	210		JT//)	POECOL	854
C 220 WRITE (LOUT-220) 1.0TC 230 GOMATI(//234) THE REQUESTED ERROR IS SMALLER THAN CAN BE HANDLED/) DECOL 230 GOMATI(//234) THE REQUESTED ERROR IS SMALLER THAN CAN BE HANDLED/) DECOL 230 GOMATI(//234) THE REQUESTED ERROR IS SMALLER THAN CAN BE HANDLED/) DECOL 230 GOMATI(//234) THE REQUESTED ERROR IS SMALLER THAN CAN BE HANDLED/) DECOL 230 GOMATI(//234) THE GRATION HALTED BY DELVER AT T = *Elo.*8/ 240 WRITE (LOUT-250) T 250 GOMATI(//234) THORERATION HALTED BY DELVER AT T = *Elo.*8/ 250 GOMATI(//234) THORERATION HALTED BY DELVER AT T = *Elo.*8/ 250 WRITE (LOUT-250) T 250 WRITE (LOUT-250) T 250 FORMATI(//234) THOUT-250 250 FORMATI(//234) THOUT-250 250 FORMATI(//244) THORERATION HAS LINE AND THOUSE AT T = *Elo.*8/ 251 FORMATI(//244) THOUT-250 252 FORMATI(//244) THOUT-250 253 FORMATI(//244) THOUT-250 254 FORMATI(//244) THOUT-250 255 FORMATI(//244) THOUT-250 256 FORMATI(//244) THOUT-250 257 FORMATI(//244) THOUT-250 258 FORMATI(//244) THOUT-250 259 FORMATI(//244) THOUT-250 250 FORMATI(//244) THO	220 WRITE (LOUT.230) T.DTC 240 WRITE (LOUT.230) T.DTC 250 WRITE (LOUT.230) T.DTC 250 WRITE (LOUT.230) T.DTC 250 WRITE (LOUT.250) T.DTC 250 WRITE (LOUT.250) T.DTC 250 WRITE (LOUT.270)	220 WRITE (LOUT.230) T.DTC 240 WRITE (LOUT.230) T.DTC 250 FORMALLY SHALES = 2 FKUM INTEGNATOR AT T = .E16.#k.bh DT =, PDECOL 250 FORMALLY SHALES = 2 FKUM INTEGNATOR AT T = .E16.#k/ 250 FORMALLY SHALE		,	046 01 09		PUECOL	858
200 WHITE (LOUT-230) THE REQUESTED ERROR IS SMALLER THAN CAN be HANDLED.) PRECOLOGY OF 10 to 10	2.00 WRITE (LOUT-230) THE REQUESTED ERROR IS SMALLER THAN CAN bE HANDLED.) PRECOL CONTRINGED TO SMALL TO BE ATTAINED FOR THE WANDLED.) PRECOL CONTRIBLED TO SMALL TO BE ATTAINED FOR THE WACHINE PRECISION.) PRECOL CONTRIBLED TO SMALL TO BE ATTAINED FOR THE WACHINE PRECISION.) PRECOL CONTRIBLED TO THE WACHINE PRECISION.) PRECOL CONTRIBLED TO SMALL TO BE ATTAINED FOR THE WACHINE PRECISION.) PRECOL CONTRIBLED TO SMALL TO BE ATTAINED FOR THE WACHINE PRECISION.) PRECOL CONTRIBLED TO SMALL TO BE ATTAINED FOR THE WACHINE PRECISION.) PRECOL CONTRIBLED TO SMALL TO BE ATTAINED FOR THE WACHINE PRECISION.) PRECOL CONTRIBLED TO SMALL TO BE ATTAINED FOR THE WACHINE PRECISION.) PRECOL CONTRIBLED TO SMALL TO SMALL TO STUARGE OVERWATES.) 200 WRITE (LOUT-230) TATOUT OF TO STUARGE OVERWATES.) 201 WRITE (LOUT-230) TRID TO THE SMALL WEIGHT TO THE STUARGE OVERWATES.) 202 WRITE (LOUT-230) TRID TO THE SMALL WEIGHT TO THE STUARGE OVERWATES.) 203 WRITE (LOUT-230) TRID TO THE SMALL WEIGHT TO THE STUARGE OVERWATES.) 204 WRITE (LOUT-230) TRID TO THE SMALL WEIGHT TO THE STUARGE OVERWATES.) 205 FORMATION TO THE SMALL TO THE SMALL WEIGHT TO THE STUARGE OVERWATES.) 206 WRITE (LOUT-230) TRID TO THE SMALL WEIGHT TO THE STUARGE OVERWATES.) 207 FORMATION TO THE SMALL TO THE SMALL WEIGHT TO THE STUARGE OVERWATES.) 208 WRITE (LOUT-230) TRID TO THE SMALL WEIGHT WIST WE OF LEWGTH. PRECOLUTION TO THE SMALL WEIGHT TO T	220 FORMATIV/250 THE REQUESTED ERROR IS SMALLER THAN CAN BE MANDLED//) PRECOLOR 10 340 240 MATER (1,027.250) THE REQUESTED ERROR IS SMALLER THAN CAN BE MANDLED//) PRECOLOR 10 340 250 FORMATIV/250 MALL TO BE ATTAINED FOR THE MACHINE PRECISION/) PRECOLOR 10 340 260 MATER (1,027.250) THE MATHAIRED BY DRIVER AT THE SELD-8/ PRECOLOR 10 340 270 FORMATIV/250 MALL TO BE ATTAINED FOR THE MACHINE PRECISION/) PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED FOR THE MACHINE PRECISION/) PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER AT THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE MACHINE PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE MATHAIRED BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE WAITE BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE WAITE BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE WAITE BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE (1,027.250) THE WAITE BY DRIVER BY DRIVER BY THE SELD-8/ PRECOLOR 10 340 280 WAITE BY DRIVER BY D					POECOL	90.0
230 FORMATI(//23H TRIEGRATION MALTED BY DELVER TANN CAN BE MANDLED/) PRECOL 60 TO 340 6	230 FORMATI(//23) THE REQUESTED ERROR IS SMALLER TARN CAN BE HANDLEDAL) PRECOL 60 TO 340 C 240 WRITE (LOUT-250) THE REQUESTED ERROR IS SMALLER TARN CAN BE HANDLEDAL) PRECOL 60 TO 340 C 560 WRITE (LOUT-250) THE REQUESTED ERROR COLUB FOR THE MACHINE PRECISIONAL) PRECOL 60 TO 340 C 60 TO 340 C 60 WRITE (LOUT-270) THE MATHIX ENCONNIFRED. 60 TO 340 C 70 MRITE (LOUT-270) THE MATHIX ENCONNIFRED. 60 TO 340 C 70 WRITE (LOUT-270) THE MATHIX ENCONNIFRED. 60 TO 340 C 70 WRITE (LOUT-270) THE MATHIX ENCONNIFRED. 61 TO 340 C 70 WRITE (LOUT-270) THE MATHIX ENCONNIFRED. 62 TO 180 C 70 WRITE (LOUT-270) THE MATHIX ENCONNIFRED. 641 INTERPOLATION WAS JUNK AS UN NOWALL RETURN. 641 WRITE (LOUT-230) TERIO 65 TO 340 C 70 WRITE (LOUT-230) TERIO 66 TO 340 C 70 WRITE (LOUT-230) TERIO 67 TO 340 C 70 WRITE (LOUT-230) TERIO 68 TO 180 C 70 WRITE (LOUT-230) TERIO 69 TO 340 C 70 WRITE (LOUT-230) TERIO 60 TO 340 C 70 WRITE (LOUT-230) TERIO 60 TO 340 C 70 WRITE (LOUT-230) TERIO 60 TO 340 C 70 WRITE (LOUT-330) TERIO 60 TO 340 C 8 TO WRITE (LOUT-330) TERIO 60 TO 340 C 8 TO WRITE (LOUT-330) TERIO 60 TO 340 C 8 TO WRITE (LOUT-330) TERIO 60 TO 340 C 8 TO WRITE (LOUT-330) TERIO 60 TO 340 C 8 TO WRITE (LOUT-330) TERIO 60 TO 340 C 8 TO WRITE (LOUT-340) WRITE (LOUT-340) WRITE (LOUT-340) C 9 TO 340 C 9 TO	230 FORMATI(/23) THE REQUESTED ERROR IS SMALLER TARN CAN BE MADLED/) PRECOL 240 MPTTE (LOUT-250) THE REQUESTED ERROR IS SMALLER TARN CAN BE MADLED/) PRECOL 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/23) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/22) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/22) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 250 FORMATI(/22) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 251 FORMATI(/22) NEGRATION MALTED BY DELVER AT T = *Elo-8/ 252 FORMATI(/22) NEGRATION MALTED MALTED BY DELVER AT T = *Elo-8/ 253 FORMATI(/22) NEGRATION MALTED MALTED BY DELVER AT T = *Elo-8/ 254 FORMATI(/22) NEGRATION MALTED MALTED BY DELVER AT T = *Elo-8/ 255 FORMATI(/22) NEGRATION MALTED MALTED BY DELVER AT T = *Elo-8/ 256 FORMATI(/22) NEGRATION MALTED MALTED BY DELVER AT T T = *Elo-8/ 257 FORMATI//22 NEGRATION MALTED MALTED BY DELVER AT T T = *Elo-8/ 258 FORMATI//22 NEGRATION MALTED		22	0 WRITE (LOUT, 230) 1-DIC	1	POECOL	45.4
** TIP & STATE (LOUT-250) T ** FIG. 48 ** FI	*** TIPE (1007-250) T THE MEDUESTED ENDOR IS SMALLEN TANN CAN BE MANDLEDA.) PRECOL 20 WRITE (1007-250) T TO SMALL TO BE DEFINED FOR THE MACHINE PHECISIONAL 564 WRITE (1007-270) T TO SMALL TO BE ATTAINED FOR THE MACHINE PHECISIONAL 60 TO 300 CONTROL OF THE CONVERGENCE COULD NOT BE ACHIEVEDA') PRECOL 60 TO 100 60 TO 100 CONTROL OF THE CONVERGENCE COULD NOT BE ACHIEVEDA') PRECOL 60 TO 100 CONTROL OF THE CONVERGENCE COULD NOT BE ACHIEVEDA') PRECOL 60 TO 100 CONTROL OF THE CONVERGENCE COULD NOT BE ACHIEVEDA') PRECOL 60 TO 100 CONTROL OF THE CONVERGENCE COULD NOT BE ACHIEVEDA') PRECOL 60 TO 100 CONTROL OF THE CONVERGENCE COULD NOT BE ACHIEVEDA') PRECOL 60 TO 100	** TIP 4.0272*** THE MEDUESTED ERHOR IS SMALLEN TANN CAN BE HANDLED.) PRECOL 2-0 WRITE (LOUT-250) T ** FIRE 4.0272***********************************		230	O FORMATION AFLAG B -2 FROM INTEGRATOR AT 1 B .E.16.50	# LO	PDECOL	656
### ##################################	60 TO 340 240 FORMATI(/250) TO SMALL TO BE ATTAINED FOR THE WACHINE PRECISION/) POECOL 250 FORMATI(/270) TO SMALL TO BE ATTAINED FOR THE WACHINE PRECISION/) POECOL 260 FORMATI(/270) TO 340 260 FORMATI(/270) FORMATICE COULD NOT BE ACHIEVED/) 260 FORMATI(/270) FORMATICE FORMATICE FORMATICE FOR FORMATICE SOURCE FOR FORMATICE SOURCE FOR FORMATICE FORMATICE FORMATICE FORMATICE FORMATICE FORMATICE FOR FORMATICE SOURCE FORMATICE F	60 TO 340 240 WRITE (LOUT-250) TATAINED BY DELVER AT T = .E10.8/ 560 FORMATI(//371 INTERATION MALTED BY DELVER AT T = .E10.8/ 60 TO 340 C 70 1890 C 80 WRITE (LOUT-270) T STOWAGE COULD NOT BE ACHIEVED/) PDECOL C 80 WRITE (LOUT-270) T STOWAGE OVERWAITES/) PDECOL C 80 WRITE (LOUT-270) T STOWAGE OVERWAITES/) PDECOL C 90 WRITE (LOUT-270) T STOWAGE OVERWAITES/) PDECOL C 91 GABA (//224) MDEX = 10 MN			* EI6.8/52H THE MEGUESTED EMBOR IS SMALLER THAN CAN E	HANDLED//)	POECOL	900
C 240 WFITE (LOUT-250) T 560 WFITE (LOUT-250) T 60 TO 340 60 TO	C 240 WFITE (LOUT-250) T SOURCE CO SMALL TO BE ATTAINED FOR THE MACHINE PRECISION) POECOL SOUR MATERIAL CONTRIBUTION THATED BY DRIVER AT T = "E16.8"/ POECOL C 60 TO 340 C 70 180 C 80 WFITE (LOUT-270) T 7 PROUNTFRED, B 70 FORMAT//290 SOURCE COULD NOT BE ACHIEVED/) POECOL C 80 WFITE (LOUT-270) T 7 PROUNTFRED, C 90 WFITE (LOUT-270) T PRO	C 240 WFITE (LOUT-250) T SOFT EEPS TOO SMALL TO BE ATTAINED FOR THE MACHINE PRECISION) FOR SOFT END SMALL TO BE ATTAINED FOR THE MACHINE PRECISION) FOR SOFT END SMALL TO BE ATTAINED FOR THE MACHINE PRECISION) FOR SOFT END SMALL TO BE ATTAINED FOR THE MACHINE PRECISION) FOR SOFT END SMALL TO BE ATTAINED FOR THE SECOND PRECISION FOR SOFT END SMALL TO BE ATTAINED FOR THE SECOND PRECISION FOR SOFT END SMALL FOR SMALLE FOR STORAGE OVERWHITES/) FOR SOFT END SMALL FOR SMALLE FOR SMALL FELDING			60 10 340		PDECOL	960
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** 564 EPS TOO SMALL TO BE ATTAINED FOR THE MACHINE PRECISION/) FOR TO 340 C 60 TO 340 C 60 WATE [LOUY-270) T ** 564 WATE [LOUY-270] ** 564 CPS TE [LOUY-270] ** 564 CPS TE [LOUY-270] ** 60 WATE [LOUY	* 564 EPS TOO SMALL TO BE ATTAINED FOR THE MACHINE PRECISION/) FOR TO 340 C 60 TO 340 C 60 WATTE (LOUT-270) T PDECOL 270 FORMAT(//284 SINGULAR MATHIX ENCOUNTERED, 60 TO 180 C 80 WATTE (LOUT-290) 280 WATTE (LOUT-290) 290 FORMAT(//284 SINGULAR MATHIX ENCOUNTERED, 60 TO 340 C 80 WATTE (LOUT-290) 290 FORMAT(//284 SINGULAR MATHIX ENCOUNTERED, 60 TO 340 C 90 WATTE (LOUT-290) 290 FORMAT(//284 SINGULAR MATHIX ENCOUNTERED, 60 TO 340 C 90 WATTE (LOUT-290) 290 FORMAT(//284 SINGULAR MATHIX ENCOUNTERED, 60 TO 340 C 90 WATTE (LOUT-290) 290 FORMAT(//284 INDEX = 1 ON INPUT wITH (T-TOUT)*DT .GE* O./ 60 TO 340 C 90 WATTE (LOUT-390) 200 WATTE (LOU	** SAGE FERS TOO SMALL TO BE ATTAINED FOR THE MACHINE PRECISION/) ** SAGE FERS A CONTROL OF ATTAINED FOR THE MACHINE PRECISION/) ** CONTROL OF THE COURT OF THE COULD NOT BE ACHIEVED/) ** CONTROL OF THE COURT OF THE COULD NOT BE ACHIEVED/) ** CONTROL OF THE COURT OF THE COUR		250	O FORMATI//37H INTEGRATION MALTED BY DFIVER AT T = .Elb.	76	PDECOL	663
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270 FORMATI(//25H KTLAG = -3 FHOM INTEGHATUR AT T = ,E16.8/ 60 TO 180 C 00 UNITE (LOUT.290) SEGO WHITE (LOUT.290) ***CLAG = -4 0 TO 180 0 TO 180 ***CLAG = -4 0 TO 180 ***CLAG = -4 0 TO 180 ***CLAG = -4 0 TO 180 0 TO 18	200 WRITE (LOUT-290) 60 TO 180	200 WRITE (LOUT-290) 60 TO 180 C 800 WRITE (LOUT-290) 60 TO 180 60			t veto Hill is what		1000	9 4
### CONTRICTOR CONVERGENCE COULD NOT BE ACHIEVED! ### CONTRICTOR CONVERGENCE COULD NOT BE COULD PRECOLD ### CONTRICTOR CONVERGENCE COULD NOT BE COULD PRECOLD ### CONTRICTOR CONTRIBUTION OF COULD NOT BE COULD PRECOLD ### CONTRIBUTION WAS UNDER A CONTRIBUTION OF COULD PRECOLD PRECOLD ### CALL INTERPOLATION WAS UNDER NOT WADE.) ### THERPOLATION WAS UNDER A CONTRIBUTION OF COULD PRECOLD PRECOLD PRECOLD PRECOLD COULD NOT SELD ON COULD PRECOLD PRECOLD PRECOLD PRECOLD PRECOLD PRECOLD PRECOLD PRECOLD COULD NOT SELD ON COULD PRECOLD PRECO	######################################	CONTRIBUTION OF THE CONTRI			TO THE REPORT OF THE PROPERTY		ביים היים היים היים היים היים היים היים	000
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290 WORTE (LOUT-290) 290 FORMAT(//Zeh SINGULAR MATKIX ENCOUNTERE), ** 354 PROBABLY DUE TO STUKAGE OVERHRITES//) ** 60 TO 340 310 WRITE (LOUT-310) T.TOUT-DTC 310 WRITE (LOUT-310) T.TOUT-DTC 310 WRITE (LOUT-310) T.TOUT-ELD-80-BH DTC = FELD-8/ ** 44H INTERPOLATION WAS UNDE AS UN WORMAL RETURN./ ** 44H INTERPOLATION WAS UNDE AS UN WORMAL RETURN./ ** A1H DESINED PARAMETER CHANGES WERE NOT MADE.) ** BETURN C A2L INTERPOLATION WAS UNDE AS UN WORMAL RETURN./ ** A1H DESINED PARAMETER CHANGES WERE NOT MADE.) DECOL. RETURN C A2D WRITE (LOUT-330) IERIO A3D FORMAT(//Z2H ILLEGAL INPUTINDEX= .13//) RETURN C A3D FORMAT(//Z2H INSUFFICIENT STORAGE/Z4H WORK HUST HE OF LENGTN., ** 110-5X-12HYOU PROVIDED.110/Z4H IWORK WUST HE OF LENGTN., ** 12HYOU PROVIDED.110//) RETURN C A3D TOUT W T DECOL. DECOL. DECOL. PDECOL. PDECOL	280 WRITE (LOUT.290) FORMAT(//284 SINGULAR MATMIX ENCOUNTERED, WILLS = -4 BOT 0 340 GO TO 340	280 WRITE (LOUT.290) PDECOL PERANTIZE (LOUT.310) T.TOUT.DTC GO TO 340 A H T = EEI.2, 8.99 H TOUT. *EIRONT *EIRONT) * PDECOL O MATTE (LOUT.310) T.TOUT.DTC 310 FORMATIZELOUT.310) T.TOUT. *EIRONT *EIRONT *EIRONT *EECOL *** A H T = EEI.2, 8.99 H TOUT. *EIRONT *EIRONT *EECOL *** A H T = EEI.2, 8.99 H TOUT. *EIRONT *EIRONT *EECOL *** A H T = EEI.2, 8.99 H TOUT. *EIRONT *EECOL *** A H DESIMED ARAMETER (LANGES WEME NOT MADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT MADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT MADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT MADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT MADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT MADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT MADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT MADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIMED ARAMETER (LANGES WEME NOT WADE.) *** A H DESIME ARAMETER (LANGES WEME NOT WADE.) *** A H DESIME ARAMETER (LANGES WEME NOT WADE.) *** A H DESIME ARAMETER (LANGES WEME NOT WADE.) *** A H DESIME ARAMETER (LANGES WEME NOT WADE.) *** A H DESIME ARAMETER (LANGES WEME NOT WADE.) *** A H DESIME A H WADE.)		U			PUECOL	872
### ### ##############################	FOR TORMAT (7/26H SINGULAR MATWIX ENCOUNTRED, ** A PROBABLY DUE TO STURAGE OVERWRITES/) ** OF TOWAT (7/26H SINGULAR MATWIX ENCOUNTRED, ** OF TOWAT (7/26H SINGER = 1 ON INPUT with (1-70UT)*DT .6E* O*/ ** OF TOWAT (7/26H SINGER = 1 ON INPUT with (1-70UT)*DT .6E* O*/ ** OF TOWAT (7/26H SINGER = 1 ON INPUT with (1-70UT)*DT .6E* O*/ ** OF TOWAT (7/26H SINGER = 1 ON INPUT with (1-70UT)*OT .6E* O*/ ** OF TOWAT (7/26H SINGER = 1 ON INPUT with (1-70UT)*OT .6E* O*/ ** OF TOWAT (7/26H SINGER = 1 ON INPUT with (1/26H) MADE.) ** OF TOWAT (7/26H SINGER = 1 ON INPUT with (1/26H SINGER = 1 ON INPUT with (1	290 FORMATI(/Z8H SINGULAR MATHIX ENCOUNTEREL) -		280	0 MRITE (1001-290)		POFCOL	873
## 35H PROBABLY DUE TO STURAGE OVERWHITES//) ### 10 WRITE (LOUT.310) T.TOUT.DIC ### 10 WRITE (LOUT.3	### 359 PROBABLY DUE TO STURAGE OVERWHITES//) ##################################	### 1959 PROBABLY DUE TO STURAGE OVERWHITES//) ##################################		200	SCORETY//OR STAGE AD MAIN M FORCOLLABORE.		00000	674
KFLAG = -4 60 TO 340 C 300 WRITE(LOUT-310) T.TOUT.DTC 310 FORMATICASAM INDEX = -1 ON INPUT WITH (T-TOUT)*DT .GE* O./ * 4+H T **E15.8*9+ TOUT **E16.8*H DTC **E16.8*/ * 4+H T **E15.8*9+ TOUT **E16.8*H DTC **E16.8*/ * 4+H T WIFRPOLATION WAS UNME AS UN NURMAL RETURN./ * 4+H INTERPOLATION WAS UNME AS UN NURMAL RETURN./ * 4+H T WIFRPOLATION WAS UNME AS UN NURMAL RETURN./ * A+H DESIMED PARAMETER (TANGES WEME NOT MADE.) RETURN G 220 WRITE(LOUT.330) IERID RETURN C 320 WRITE(LOUT.330) IERID RETURN C 335 WRITE(LOUT.336) IWSTOR*IM* NUST HE OF LENGTH., PDECOL PDEC	## ## ## ## ## ## ## ## ## ## ## ## ##	VELAG = -4	•		o Toran (Vigor oliveoplas Thristo (Netolas Overplanes Vis		1000	
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SUBPOUTINE POECOL	76/76	OPT=1 WUUND=+-0/ THACE	FTN 4.0*452	03/19/78	C1.47.4 14.26.15	PAGE	2. 1 2. 1 2. 1 2. 1 2. 1 2. 1 2. 1 2. 1
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SUBROUTINE VALUES (X+USUL+SCTCH+NDIM1+NDIM2+NPTS+NDERV+#UHK)

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CALLING PARAMETERS ARE...

* AN ARBITRARY VECTOM OF SPATIAL POINTS OF LENGTH NPTS AT WHICH THE SOLUTION AND THE FIRST NLERY DEMINATIVE VALUES ARE TO BE CALCULATELU. IF X .LT. XLEFT (X .GT. XRIGHT) THEN THE PIECEMISE POLYMOMIAL OVER THE LETTMOST (RIGHTMOST) INTERVAL IS EVALUATED TO CALCULATE THE SOLUTION VALUES AT THIS UNUSUAL VALUE OF X. SEE PDECOL.

AN ARRAY WHICH CONTAINS THE SOLUTION AND THE FIRST NDERV DERIVATIVES OF THE SOLUTION AT ALL THE POINTS IN THE INPUT VECTOR X- IN PARTICULAR, USOL(J.,I.x.) CONTAINS THE VALUE OF THE ("-1)-ST DERIVATIVE OF THE J-TH PDE COMPONENT AT THE I-TH POINT OF THE X VECTOR FOKURE IT TO NPDE, I = I TO NPTS, AND K = I TO NDERV*].

A USER SUPPLIED WORKING STOKAGE ARKAY OF LENGTH AT LEAST KORD*(NDEHY*1). SEE BELOW AND PDECOL FUR DEFINITIONS OF

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THESE PARAMETERS.

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ND I M2

THE SECOND DIMENSION OF THE OUTPUT ARRAY USOL IN THE CALLING PROGRAM. NUIM2 MUST BE "GE. NPTS.

THE NUMBER OF POINTS IN THE X VECTOR.

THE FIRST DIMENSION OF THE OUTPUT ARRAY USOL IN THE PROGRAM. NDIMI MUST BE .GE. NPDE.

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NPTS

VALUES VALUES VALUES VALUES VALUES VALUES VALUES

THE USERS WORKING STORAGE ARMAY WHICH IS USED IN THIS CASE TO PROVIDE THE CURRENT BASIS FUNCTION COEFFICIENTS AND THE PIECEWISE POLYNOMIAL BREAKPOINT SEQUENCE.

THE NUMBER OF DERIVATIVE VALUES OF THE SULUTION THAT ARE TO BE CALCULATED. NDERV SHOULD HE LESS THAN KOKD SINCE THE KORD-TH DERIVATIVE OF A POLYNUMIAL OF DEGREE KORU-1 IS EQUAL TO ZEMO. SEE PDECOL.

VALUES VALUES VALUES VALUES

DIMENSION USOL(NDIMI,NDIME,NDERY),X(NPTS),SCTCH(I),WOHK(I) COMMON /SIZES/ NINT,KORD,NCC,NPDE,NCFTS,NEGN,IQUAD COMMON /ISTAHT/ IMI,IME,IME,IM4,IM5,IM6,IDUM(I2)

USEKS MAIN PRUGHAM

BSPLVD, INTERV NONE NONE

ROUTINES CALLED..

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FORTRAN FUNCTIONS USED. PACKAGE ROUTINES CALLEDUSER ROUTINES CALLED..

CALLED BY..

INTERV (MORK (IM2) .NCPTS.X (IPTS) . ILLFT.MFLAG

DATA ILEFT/0/+ MFLAG/0/ NDERVI # NUE/V + I DO 20 IPTS=1.NPTS CALL INTERV(WORK(IW2))

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NDEPV

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SUBROUTINE VALUES COMPUTES THE SOLUTION U AND THE FIRST NUERY
THEM IN THE MAPRAY USOL. THIS MOUTINE MUST BE USED TO OBTAIN
SOLUTION VALUES SINCE PDECOL UNES NOT METURN ANY SOLUTION VALUES
TO THE USER. SEE POECOL.

	SUBHOUTINE VALUES	VALUES		0PT=1	76/76 OPT=1 PUUND=+-+/ THACE	•/ TKA(<u></u>	FIN 4.6+452	2444	03/19/76	03/19/76 14.26.15	PAGE	
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,			II = (M-1) *KORD	1) • KURL	_					VALUES	62		
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			US0L (K	. IPTS.	USOL (K. IPTS.M) = 0.					VALUES	\$		
			00 10	DO 10 I=1.KORD	٥					VALUES	92		
ē	ır		- 21	(I+IK-	12 = (1+1K-1)*NPDL + 146 - 1	146	-			VALUES	99		
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PAGE

WITH, IS CALLED ONLY UNCE BY DELOLD TO FEFFORM INITIALIZATION TASKS. 45 TASKS INCLORE - 1) CALLING THE PIFCENISE POLYMONIAL SPACE ERAPUNIA SEQUENCE, 2) CALLING THE PIFCENISE POLYMONIAL SPACE EQUIDATION VALUES (PLOS FINST AND SECOND URKHVATIVE VALUE) AT COLOCATION POINTS, AND 4) DEFINION THE INITIAL BASIS FUNCTION VEFFORMERS FILED USER SUPPLIED CUINIT) INITIAL BASIS FUNCTION (S) THE COLLOCATION POINTS AND 4) DEFINION THE INITIAL SERVEDORARY STORAGE USEU TO ACTOM INITIAL. STORAGE ROLTOM ALUES. WESTORAGE SERVED TO ACTOM INITIAL. SERVEDORARY STORAGE USEU TO ACTOM INITIAL. SERVEDORARY STORAGE USEU TO ACTOM INITIAL. SERVEDORARY STORAGE USEU TO ACTOM INITIAL. STORAGE ROUTINES CALLED BUSPLUD.COLPNT.UBEN 10.171. COMMON SERVEY NOW. TOWN ALL SPACE EMERKROINT SEQUENCE. REPT = POINTERS TO RREAMPOINT SEQUENCE EMERKROINT SEQUENCE. REPT = STORAGE WOUTHERS TO RECAMBE TO THE TOWN TOWN TOWN TOWN TOWN TOWN TOWN TOWN	TITAL IS CALLED ONLY UNCE BY DELOGIN TO FEFFORM INITIALIZATION TASSS. 45 TASSS INCUORD. 45 TASSS INCUORD. 45 TASSS INCUORD. 46 TASSS INCUORD. 46 TASSS INCUORD. 47 TABLES 48 TASSS INCUORD. 48 TASSS INCUORD. 48 TASSS INCUORD. 48 TASSS INCUORD. 49 TASSS INCUORD. 49 TASSS INCUORD. 40 TASSS INCUORD. 40 TASSS INCUID. 41 TASSS		- N	
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ALEE BY. DIMENSION A(K+3+1), PHS(1) A(I) AX (1) AX (1) AX (1) PY (1) AX	ALED BY. ALED BY. DIMENSION A(K+3+1), PHS(1) * A(I) * XT(1) * ACC(1) * PW(1) * ILEFT(1) COMMON /SIZES/ NINT**COMD**NCC.NPDE**CPTS*NEON*IEH COMMON /SIZES/ NINT**COMD**NCC.NPDE**CPTS*NEON*IEH COMMON /SIZES/ NINT**COMD**NCC.NPDE**CPTS*NEON*IEH COMMON /SEAH9/ EPSJ*RO**ML**HU*IDUM(3)*NOW WEAPT = COMMON /SEAH9/ EPSJ*RO**ML**HU*IDUM(3)*NOW KRPT = KORD - NCC DO 10 j=1*KOHD XT(II) = X(I) IN X(II) = X(I) COLLOCATIUN POINTS ARRAY XC.* CALL COLPNT(X* XC* XT) CALL COLPNT(X* XC* XC* XT) CALL COLPNT(X* XC* XT) CALL COLPNT(X* XC* XT) CALL COLPNT(X* XC* XC* XT)		INITAL	
ALLEED BY DIMENSION A(K.3.1), FDECOL DIMENSION A(K.3.1), FDECOL DIMENSION A(K.3.1), FDECOL DIMENSION A(K.3.1), FDECOL COMMON /SIZES/ NINT*NUDD.*NCC,NPDE.*NCPTS.*NEON.*IE* COMMON /GEAM9/ EPSJ.RO.*ML*MU.*IDUM(3),*NOW MFLAG = 2 IER = 0 ET UP THE PIECEWISE POLYNOMIAL SPACE EFEAFPOINT SEQUENCE. KRAPT = KORD - MCC DO 10 i=1,*KOMD XT(NCPTS*1) = X(NINT*1) 10 XT(I) = X(I) 11 = (I-2)*KRPT + KORD DO 20 12**NINT II = (I-2)*KRPT + KORD DO 20 12**NINT II = (I-2)*KRPT + KORD CALL COLDCATION POINTS ARMY XC.* CALL COLDCATION FOR THE (J-1)-ST DEMIVATIVE (J = 1,2,3) OF THE K-TH ARMY A.* THE ANHAY A. THE ANHAY A. STUME THE BASIS FUNCTION VALUES IN THE HAM YA. THE VALUE OF THE (J-1)-ST DEMIVATIVE (J = 1,2,3) OF THE K-TH ARMY A.* CALL COLDCATION IX = 1, * KORD) AT THE ITE ITE OLLOCATION MATE IN THE INTERPOLATION MATE INTERPOLATION MA	DIMENSION A(K.3.1).PHS(1).XT(1).XT(1).PW(1).ILEFT(1) DIMENSION A(K.3.1).PHS(1).XT(1).XT(1).XT(1).PW(1).ILEFT(1) COMMON /SIZES/ NINT.FORND.NC.NPDE.NCPTS.NEGN.IEH COMMON /SIZES/ NINT.FORND.NC.NPDE.NCPTS.NEGN.IEH ET UP THE PIECEWISE POLYNOMIAL SPACE EKEARPOINT SEQUENCE. KRPT w CRD - NCC DO 10 :=1.KOPD - NCC DO 10 :=1.KOPD - NCC DO 10 :=1.KOPD - NCC DO 20 !=2.NINT II = (1-2).EKRPT + KORD DO 20 !=2.NINT II = (1-2).EKRPT + KORD OO 20 JA1.KRPT XT(III-J) = X(I) ET UP COLLOCATION POINTS ARRAY XC. CALL COLPNT(X. XC. XT) C		INITAL	
DIMENSIONS USED MAXUMINO DIMENSION A(K. 3.1). PHS(1). A(I). XT(1). XT(1). PHS(1). IPIV(1). ILEFT(1) COMMON /SIZES/ NINT. WORD. NCC.NPDE. NCTS. NEGN. IEM COMMON /SIZES/ NINT. WORD. NCC.NPDE. NCTS. NEGN. IEM MFLAG = -2 IEM = 0 ET UP THE PIECEWISE POLYNOMIAL SPACE EFFAKPOINT SEQUENCE. KRPT = KORD - NCC DO 10 IMINORDS. ID = X(NINT.1) OD 20 IMINORDS. ID = X(NINT.1) OD 20 IMINORDS. ID = X(NINT.1) OD 20 IMINORDS. ID = X(NINT.1) ET UP COLLOCATIUN POINTS ARRAY XC. CALL COLPNT(X. XC. XT) CALL COLPNT(X. XC. XC. XT) CALL COLPNT(X. XC. XT) CALL COLPNT(X. XC. XC. XT) CALL COLPNT(X. XC. XC. XT) CA	DIMENSION A(K. 3.1).PHS(1).A(I).XT(1).XC(1).PH(1).IPIV(1).ILEFT(1) COMMON /SIZES/ NINT.*CURD.*NCC.NPDE.*NCCN.IEM COMMON /SIZES/ NINT.*CURD.*NCC.NPDE.*NCCN.IEM COMMON /SIZES/ NINT.*CURD.*NCC.NPDE.*NCCN.IEM IER = 0 ET UP THE PIECEWISE POLYNOMIAL SPACE EFFEKPOINT SEQUENCE. KRPT = KORD - MCC DO 10 imi.KOHD XT(INCTS-1) = X(NINT-1) 10 XT(INCTS-1) = X(NINT-1) 10 XT(INCTS-1) = X(NINT-1) 10 ZO 1 = 2.MINT 11 = (1-2)*KRPT CALL COLDCATIUN POINTS ARRAY XC. CALL COLDCATIUN POINTS ARRAY XC. CALL COLDCATIUN POINTS ARRAY XC. CALL COLDCATIUN FOR THE BASIS FUNCTION VALUES IN THE HAY A THE LEFT ARRAY A IS UIMENSIUNED AKKNED (U = 1.2.2.3) OF THE K-TH CALL COLDCATIUN FOR THE (J-1) = X(1) NATAINS THE VALUE OF THE (J-1) = X(1) NATAINS THE VALUE OF THE (J-1) = X(1) NATAINS THE VALUE OF THE (J-1) = X(1) NATEROR THE INTERPOLATIVE THE THE INTERPOLATIVE THE THE THE THE THE THE THE THE THE TH		INITAL	
DIMENSION A(K.3.1), PHS(I) * A(I) * X((I) * XC(I) * PW(I) * IPIV(I) * ILEFT(I) COMMON / SIZES/ NIT**CURD**NCC,NPDE**NCON*IE** COMMON / SIZES/ NIT**CURD**NCC,NPDE**NCON*IE** COMMON / GEAH9/ EPSJ.RO**ML**HU*IDUM(3)*NOW* IER # 0 ET UP THE PIECETISE POLYNOMIAL SPACE EMERMPOINT SEQUENCE. XTOMPTS-I) = X(INT**) 10	DIMENSION A(K.3.1), PHS(I) * K(I) * K(I) * K(I) * IDIV(I) * ILEFT(I) COMMON / SIZES/ NINT*CORD.* KCPTS.* NEON-IEH COMMON / SIZES/ NINT*CORD.* N.C.* NOW COMMON / GEAH9/ EPSJ-RO.* ML.* HU.* IDUM(3) * NOW COMMON / GEAH9/ EPSJ-RO.* ML.* HU.* IDUM(3) * NOW COMMON / GEAH9/ EPSJ-RO.* ML.* HEARPOINT SEQUENCE. KRPT E KORD - NCC DO 10 721.* KORD KT(NCPTS-I) = X(NINT*I) OD 20 122.* NINT II = (I-2)* KRPT OD 20 122.* NINT II = (I-2)* KRPT OD 20 J21.* KRPT CALL COLDCATIUN POINTS ARRAY XC.* CALL COLDCATIUN POINTS ARRAY XC.* CALL COLDCATIUN FOR THE UASIS FUNCTION VALUES IN THE HAAY A THE AHAY A IS UIMENSIONED ARCHOS.* NOW THE LTHE RETHERM OF THE (J-1)** ST DEFIVATIVE (J = 1,2,3) OF THE K-TH DINZERO BASIS FUNCTION IN THE INTERPOLATIVE HE HAD HE HAD HERE HERE HERE HERE HERE HERE HERE HER	ORTRAN FUNCTIONS USED	INITAL	
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30 96	PW(1) # 0.							INITAL	6
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740	L INTERV	. XX TONCE	21SexC(1).	ILEF	7 (1) + MF LAG)			INITAL	63
CAL	L BSPLVD	CXT.KOF	10.XC(1).1	LEFT	BSPLVD(XT.KORD.XC(1).1LEFT(1).A(1.1.1).3)	٤٠)		INITAL	•
11	* NPDE *	(1-1)						INITAL	65
CAL	L UINIT	XC(1) .F	CALL UINIT (XC(I) . RHS(I)+1) . NPDE)	NPDE	•			INITAL	99
1001	1 = 1LEF	m ILEFT(I) - I - 1	- · ·					INITAL	67
4	JL = MAXO(1.1+2-NCPTS)	. I+2-NC	:PTS)					INITAL	99
3	JU # MING (KORD . KORD + I-2)	ORD . KOR	10-1-01					INITAL	69
9	UC + 10=0 0+ 00	3						INITAL	70
7	11 = 11	NEON	* (NPDE *	100	J # 11 + NEON * (NPDE * (1COL + J) + 1)			INITAL	7.1
٥	DO 40 JUHI-NPDE	1. NPDE						INITAL	72
0*	PE(JJ+J1) = A(J+1+1)	11) = A((1.1.1)					INITAL	73
(********				************	INITAL	2
C LU DECOMPOSE THE MATRIX PW.	OSE THE	MATRIX	H.					INITAL	75
C							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		16
CALL	DECB (NE	ON NEON	CALL DECB (NEGN, NEGN, ML, MU, PW, IPIV, 1ER)	I dI +	V.1ER)			INITAL	77
	IF (IER .NE. 0) RETURN	0 . R	TURN					INITAL	76
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C SOLVE THE	LINEAR	SYSTEM	= 7.8d	RHS.	THIS GIVES	Ţ	C SOLVE THE LINEAR SYSTEM PW-L = RHS. THIS GIVES THE RASIS FUNCTION	INITAL	9
C COEFFICIE	INTS FOR	THE IN]	TIAL CONE	01TIC	NS.				7
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CALLS	SOLB (NE	ON NEOP	CALL SOLB (NEON, NEON, ML, MU, PH, RHS, IPIV)	SES.	• IPIV)			INITAL	69

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	FORTRAN FUNCTIONS USED.	COLPNT	61
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	COMMON VORTICAN ROGALS-MAKUER	COLPAT	23
	DATA ILEFT/0/	COLPNT	8
	C	COLPNT	<i>5.</i> 2
52	C IF THE VARIABLE NOGAUS IN THE COMMON BLOCK /OPTION/ IS SET .EQ. 1.	COLPNT	56
	C THE USE OF THE GARDNER FORMS IS PROPIBITION FOR ALL CASES.	COLPNT	72
	C THE HERED HAY CHANGE THIS AS DESTREAMENT IN THE DICKN DAINS.		3 0
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	C COMPUTE THE COLLOCATION POINTS TO BE AT THE GAUSS-LEGENDRE POINTS IN	COLPNT	93
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09		#	- RHO(4)			COLPNT	10
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	RH0 (2)	*	- RH0(5)			COLPNT	63
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9	GU 10	190				COLPMI	99
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	RH0 (2)	•	- KHO(6)			COLPNT	70
40	OI &	Ħ	.949107912342759E-00	2759c-00		COLPNT	7
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86		; ;	.613371437	005001		TAG CO	D 4
}	Q.		.836031107326630E-00	26630K-00		COLPNT	2 60
	SE CE		- 968160239507626E-00	07626E-00		COLPAT	9
	00					COLPNT	69
	95 K	RHO(I) *	-KHO(10-1)			COLPNT	06
06		60 TO 190				COLPNT	16
	100 RHO		.148874338961631t-00	6163lt-00		COLPNT	95
	PHO	2	.433395394129247E-00	29247E-00		COLPNT	63
	OHE		.6794095682990246-00	99024E-00		COLPNT	46
;	OI C		.8650633666889841-00	00-148688		COLPNT	Se .
95	2	RHO (10) =	.973906528517172E-00	17172E-00		COLPAT	9 1
	3	C+131 C01 00				TAL COL	÷ 6
	607		##0(1) = -##0(11-1)				9 0
			4			1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	•
100			.269543155952345c-00	523454-00		COLPNT	101
	RHO	RHO(8) =	.519096129206812t-00	06812t-00		COLPNI	705
	SHO.	6)	.730152005574047E-00	74047£-00		COLPNT	103
	OHR	-	.887062599768095E-00	68095£-00		COLPNT	104
	OH&	RH0(11) #	.978228658146057t-00	46057t-00		COLPNT	305
105	_	DO 115 I=1.5	•5			COLPNY	706
	115 8	RHO(1) *	-8H0(12-1)			COLPNT	107
		<u>~</u>				COLPNT	801
	120 RHO (.12523340851146VE-00	11469E-00		LNGTOD	607
	DHE		.36783149894616UE-00	98180E-00		LNGTOD	071
110	E HO	u	.567317954286617E-00	86617E-00		COLPAT	777
	OH	MHOCION M	.769902674194303E-00	00-3006-44		ING TOO	217
	2 0	# (TI) OHA	00-11/40/01/11/19/04			1000	511
		4 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	. 70 [300534246 [1 35-00	101111			• • •
	3	4111 521	•			COLEN	611

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SUHHOUTINE COLPNT	COLPNT 76/76 OPT=1 RUUND=+-+/ TRACE	FTN 4.5.45	03/19/78	14.26.15	r AGE
115	125 PHO(1) = -FHO(13-1) 60 TO 190 130 FHO(7) = .0 DAMIC 6) = .0		COLPNT	1111	
120			CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	* * * * * * * * * * * * * * * * * * *	
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130			COLPNT COLPNT COLPNT COLPNT	0 11 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
135	145 PHO(1) = ~HO(15-1) 60 TO 190 150 PHO(8) = ~0 150 PHO(8) = ~201194093947435E-00 PHO(10) = ~3941513476745-00		COLPN1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
0 • 0			COLPNT		
150	"		COLPN1	125 5 6 6 4 6 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
155	RHO(14) = RHO(15) = RHO(16) = DU 165 1=1 PHO(1) = GO TO 190		COLPNT COLPNT COLPNT COLPNT COLPNT COLPNT	40011 4001 4000 4000 4000	
160	170 RHO(9) = .0 PHO(11) = .174484 H149584 = .00 RHO(11) = .35123176,345387 = .00 RHO(112) = .512690537046477 = .00 RHO(13) = .657671159216691 = .00 RHO(14) = .741514003895801 = .00 RHO(14) = .741514003895801 = .00		COLPNT COLPNT COLPNT COLPNT COLPNT	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
170	# 		COLPNT COLPNT COLPNT COLPNT COLPNT COLPNT	100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	

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(11) = .2518062256915064-00 (13) = .41175116102268451-00 (13) = .41175116102268451-00 (14) = .6916470431003544-00 (15) = .40170458972524-00 (16) = .692602464075564-00 (16) = .692602464075564-00 (18) = .9916614209314-00 (18) = .9916614209314-00 (18) = .9916614209314-00 (18) = .9916614209314-00 (18) = .9916614209314-00 (18) = .9916614209314-00 (19) = .40170468972524-00 (19) = .4017048111 - x(1)) = .5 (x(NM)T = 1717 - x(1)) = .5 (x(NM)T = 1117 - x(
RHO(12) = .5597001240-00 RHO(13) = .54175116140234-00 RHO(14) = .6916610430354-00 RHO(15) = .6922024664972524-00 RHO(15) = .991655164209314-00 RHO(15) = .99165164209314-00 RHO(15) = .99167209314-00 RHO(15) = .9917944-00 RHO(15) = .9917944-00 RHO(15) = .9917944-00 RHO(15) = .991794-00 RHO(15) = .9917				COLPRI	173
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MODIS MODI	;			COLPNI	175
### ##################################	175			COLPNT	176
RHOI15 # . * * * * * * * * * * * * * * * * * *				COLPNY	177
RHO(15) = .95582349571308E-00		RHO(16) # .892602466497556E-00		COLPNI	178
RHO(1) = .99156516420931E-00		RHO(17) = .955823949571398E-00		COLPNT	179
185 18-19		RHO(18) = .991565168420931£-00		COLPNT	180
COMPUTE THE GAUSS-LEGENORE COLLOCATION FOINTS IN EACH SUBINTERFAL. COMPUTE THE GAUSS-LEGENORE COLLOCATION FOINTS IN EACH SUBINTERFAL. 190 DO 195 INININI PACE (A [A1]) - x(1) - x5 DO 195 INININI PACE (A [A1]) - x(1) - x5 COMPUTE THE COLLOCATION POINTS TO BE AT THE POINTS WHERE THE BASIS COMPUTE THE COLLOCATION POINTS TO BE AT THE POINTS WHERE THE BASIS COMPUTE THE COLLOCATION POINTS TO BE AT THE POINTS WHERE THE BASIS COMPUTE THE COLLOCATION POINTS TO BE AT THE POINTS WHERE THE BASIS COMPUTE THE COLLOCATION POINTS TO BE AT THE POINTS WHERE THE BASIS COMPUTE THE COLLOCATION POINTS TO BE AT THE POINTS WHERE THE BASIS COMPUTE THE COLLOCATION POINTS TO BE AT THE POINTS WHERE THE BASIS COMPUTE THE COLLOCATION POINTS TO BE AT THE POINTS WHERE THE BASIS COLPAT COLLOCATION AS A PACE AND A BASIS TO BE AT THE POINTS WHERE THE BASIS COLPAT AND A SECRAT WHEN TO IT DESTRED. COLPAT AND A SECRAT WHINTS TO BE AT THE POINTS WHERE THE BASIS COLPAT AND A SECRAT WHINTS TO BE AT THE POINTS WHERE THE BASIS COLPAT AND A SECRAT WHINTS TO BE AT THE POINTS WHERE COLPAT AND A SECRAT WHINTS TO BE AT THE POINTS WHERE COLPAT AND A SECRAT WHINTS TO BE AT THE POINTS WHERE COLPAT AND A SECRAT WHINTS TO BE AT THE POINTS WHERE COLPAT AND A SECRAT WHINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE COLPAT THE AT THE POINTS TO BE AT THE POINTS WHERE CO	180	00 185 [m].9		COLPNT	181
C COMPUTE THE GAUSS-LEGENDRE COLLOCATION POINTS IN EACH SUBINTERVAL. 190 195 111.1 - x(1) • .5 00 195 12 1.1 1.2 1.1 1.2				COLPNY	182
C COMPUTE THE GAUSS-LEGENDRE COLLOCATION POINTS IN EACH SUBINTERVAL, 190 DO 195 I=1.NINT 190 DO 195 I=1.NINT 191 FAC = (X(11) - X(1) - X(1) - X(1) 192 XC(RNOT) = 1.PTS - (1-1) + J - J - J - J - J - J - J - J - J - J			************		183
190 00 195 181, MINT 195 XCKNOT) = X(1) 0 0.5 195 XCKNOT) = X(1) 0 0.5 195 XCKNOT) = X(1) 0.5 0.5 195 XCKNOT) = X(1) 0.5 0.5 196 XCKNOT) = X(1) 0.5 0.5 197 XCKNOT) = X(1) 0.5 0.5 198 XCKNOT) = X(1) 0.5 0.5 199 XCKNOT) = X(1) 0.5 0.5 199 XCKNOT) = X(1) 0.5 0.5 190 XCKNOT 0.5 0.5 0.5 190 0.5 0.5 0.5 0.5 190 0.5 0.5 0.5 190 0.5 0.5 0.5 190 0.5 0.5 0.5 0.5 1		C COMPUTE THE GAUSS-LEGENDRE COLLOCATION POINTS IN EACH	SUBINTERVAL		184
190 DO 195 Islanini PACE (XII-1) - X(I)) * .5 RNOT E 1PTS * (I-1) + J + J INGUENT STATES * (I-1) + J					587
FACE (185	190 00 195 ININ-INI			186
195		1		COLPAT	187
195		DO 145 J # 1-1PTS		TNOTO	188
195 XC(KNOT) = X(1) FAC * (RHO(J) + 1.) X((MCPTS) = X(1) FAC * (RHO(J) + 1.) X((MCPTS) = X(1) Y(1) Y(1) X((MCPTS) = X(NINT+1) X((MCPTS) = X(MINT+1) CCMPUTE THE COLLOCATION POINTS TO BE AT THE POINTS WHERE THE BASIS COLPNT CCMPUTION STATELY HELEN MAKINA. A BISECTION METHOD IS USED TO FIND COLPNT C BY USING A SECANT METHOD IF DESIRED. X(1) = X(1)		* 7 * (1-)		TAG SOL	9 6
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CCHPUTE THE COLLOGATION POINTS TO BE AT THE POINTS WHERE THE BASIS C FUNCTIONS ATTAIN THEIR MAXIMA. A BISECTION METHOD IS USED TO FIND C FUNCTIONS ATTAIN THEIR MAXIMA. A BISECTION METHOD IS USED TO FIND C FUNCTIONS ATTAIN THEIR MAXIMA. A BISECTION METHOD IS USED TO FIND C FUNCTIONS ATTAIN THEIR MAXIMA. A BISECTION METHOD IS USED TO FIND C FUNCTIONS ATTAIN THEIR MAXIMA. THIS PROCESS COULD HE SPEEDLD UP C BY USING A SECANT METHOD IF DESIRE. 20		XOCOCHS H K(NIN+1)		TMG 100	
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C THE POINTS TO MACHINE PRECISION, THIS PROCESS COULD HE SPEEDED UP C 67 USING A SECANT METHOD IF DESIRED. 200 ITOP = NCPTS - 1 XCINCPTS) = X(1) XCINCPTS XCINCPTS) = X(1) XCINCPTS XCINC	105	CHINALIDAY ATTACK TEFTS EARTHAN A FIGHTON ESTED I	USED TO FIND	TAG ION	4
C BY USING A SECANT METHOD IF DESIRED. C BY USING A SECANT METHOD IF DESIRED. 200 ITOP = NCPTS - 1 METHOD = NCPTS - 1 XC(1D) = X(1) XC(1D) = X(1) XC(1D) = X(1) XC(1D) = X(1) XC(1D) = 1.6 + 20 XC(1D) = X(1) XC(1D) = 1.6 + 20 XC(1D) = X(1) XC(1D) = X(1D) XC(1D) = X(1	:	C THE POINTS TO MACHINE PRECISION. THIS PROCESS COULD	RE SPEEDED UP	COLPNI	197
C		C BY USING A SECANT METHOD IF DESIRED.		COLPNT	198
200 ITOP # NCPTS - 1 METURE = .2 XC(1) = X(1) XC(1) = X(1) XC(1) = 1.5 + 20 XC(1) = X(1) XC(1) =				COLPNT	199
#FLAG = -2 XC(1) = X(1) XC(1) = X(1) XC(NCPTS) = X(NINT+1) DO 240 I=2·170P XOLO = 1.6+20 X		200 ITOP # NCPTS - 1		COLPNT	200
XC(1) = X(1) XC(NCPTS) = X(NINT+1) DO 240 1=2*170P XOLD = 1*E+20 XOLD = 1*E*COLD = COLDNI CALL INTERV(XT*NCPD*XNEW*ILEFT*NFLAG) CALL INTERV(XT*NCPD*XNEW*ILEFT*NFLAG) CALL INTERV(XT*NCPD*XNEW*ILEFT*NFLAG) CALL INTERV(XT*NCPD*XNEW*ILEFT*NFLAG) COLDNI CALL INTERV(XT*NCPD*XNEW*ILEFT*NFLAG) COLDNI COLDNI IF(XVAL = 1*E*COLD = COL	200	#FLA6 = -2		COLPNT	201
XC(NCPTS) = X(NINT+1) XCLO = 10 = 2.1TOP XCLO = 10 = 2.0 TOP XL = XT(1) XR = XT(1+KORD) XR = XT(1+KORD) XR = XT(1+KORD) Z10 XNEW = 5 = (LL + XR) Z10 XNEW = 5 = (LL + XR) Z10 XNEW = 5 = (LL + XR) Z11 XNEW = 5 = (LL + XR) Z21 XNEW = 5 = (LL + XR) Z22 Z1 Z1 XNEW = 1 EFT = MFT = COLPNT Z22 CONTINUE Z23 XNEW = 1 = 1 EFT = KORD) GO TO Z30 Z24 CONTINUE Z25 CONTINUE Z26 CONTINUE Z27 CONTINUE Z27 CONTINUE Z27 CONTINUE Z28 CONTINUE Z29 XNEW = XNEW = XNEW = COLPNT Z20 XNEW = XNEW = XNEW = COLPNT Z20 XNEW = XNEW = XNEW = COLPNT Z20 XNEW = XNEW = XNEW = XNEW = COLPNT Z20 XNEW = XNEW = XNEW = XNEW = COLPNT Z20 XNEW = X		XC(1) * X(1)		COLPNT	202
## ACLOR = 1.6 + 2.0 ## ACLOR = 2.6		XC(NCPTS) = X(NINT+1)		COLPNT	203
XOLD = 1.6+20 XL = XT(1) XR = XT(1) XR = XT(1) XRE = XT(1) XRE = XT(1) XRE = XT(1) XRE = XT(1) ZOL		DO 240 1=2.110P		COLPNT	70 2
XL = XT(I) XR = XT(I) XR = XT(I+KOPD) XR = XT(I+KOPD) Z10 XNEW = .5 * (XL + XR) IF (XQLD = 60. XNEW) 60 T0 2*0 CALL INTERV(XT*KORD*XNEW*ILEFT*MFLAG) CALL BYCHOKYT*KORD*XNEW*ILEFT*MH0*2) D0 Z2D J=1*KORD* IF (I = 6u. J + ILEFT = KORD) 60 T0 Z30 COLPNT Z20 CONTINUE Z20 CONTINUE Z20 CONTINUE Z30 XXAL = RHO(KORD*J) IF (XXAL * 60.0 0) XR = XNEW IF (XXAL * 60.0 0) XR = XNEW IF (XXAL * 60.0 0) XR = XNEW COLPNT GO TO Z10 Z40 XC(I) = XR EUDN RETURN COLPNT RETURN		XQLO # 1-5-20		T 4 10 1	200
Z10 XNEW = .5 + (IL + KR) Z10 XNEW = .5 + (IL + KR) IF (XOLD .Eq. XNEW) GO TO 240 CALL BSPLVD(XT.NCPTS.NNEW.ILEFT.WFLAG) CALL BSPLVD(XT.NCPTS.NNEW.ILEFT.WFLAG) CALL BSPLVD(XT.NCPTS.NNEW.ILEFT.WFLAG) CALL BSPLVD(XT.NCPTS.NNEW.ILEFT.WFLAG) COLPNT Z20 CONTINUE Z30 XVAL = RHO(KORD.J) IF (XVAL .GT. 0.0) XR = XNEW IF (XVAL .GT. 0.0) XR = XNEW IF (XVAL .GT. 0.0) XR = XNEW COLPNT Z40 XC(1) = XNEW COLPNT COLPNT RETURN COLPNT COLPNT COLPNT RETURN	205			TAG IOC	400
210 XNEW = .5 * (XL + XR) IF (XOLD .Eq. XNEW) GO TO 240 IF (XOLD .Eq. XNEW) GO TO 240 CALL BSPLVOXT*NCPTS*XNEW*ILEFT*MHO.2) DO 220 J=1*KORD IF (1 .Ed. J * ILEFT = KORD) GO TO 230 COLPNT 220 CONTINUE 230 XVAL = RHO(KORD*J) IF (XVAL .Eq. 0.0) XR = XNEW IF (XVAL .Eq. 0.0) XR = XNEW IF (XVAL .LT. 0.0) XR = XNEW GO TO 210 240 XC(1) = XR GO TO 210 COLPNT COLPNT COLPNT COLPNT RETURN	,			130	204
If (XOLD . GO. XNEW) GO TO 240 COLPNI				100	905
CALL BSPLVO(XT.NCPS.NEW.ILEFT.MFLAG) CALL BSPLVO(XT.NCPS.NEW.ILEFT.MFLAG) CALL BSPLVO(XT.NCPS.NEW.ILEFT.MFLAG) CALL BSPLVO(XT.NCPO.XT.NCP) CALL BSPLVO(XT.NCPO.XT.NCP) COLPNT If (I = Eu. J + ILEFT = KORD) GO TO 230 COLPNT If (XVAL = RHO(KORD.J) IF (XVAL - FCO. 0.0) XR = XNEW IF (XVAL - GT. 0.0) XR = XNEW IF (XVAL - CT. 0.0) XR = XNEW COLPNT GO TO 210 Z40 XC(1) = XNEW COLPNT RETURN COLPNT COLP				100	9 6
CALL BSPLYOKT, WORD, XMEW, ILEFT, RHO, 2) CALL BSPLYOKT, WORD, XMEW, ILEFT, RHO, 2) DO 220 J=1, WORD IF (1 e e e e e e e e e e e e e e e e e e		THE SOLD SERVE SAME TO SERVE SERVE SAME THE SERVE SAME SAME SAME SAME SAME SAME SAME SAM		100	600
CALL 687-VUCKT-NCMD-XMEW-ILET 1-NMULC) CALL 687-VUCKT-NCMD-XMEW-ILET 1 60 TO 230 If (I = 640 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -					012
DO 220 JEINONO If (1 ~ EG,) + ILEFT - KORD) GO TO 230 COLPNT 220 CONTINUE 230 XVAL = RHO(KORD+J) If (XVAL - 6F0, 0.0) XR = XNEW IF (XVAL - 6F0, 0.0) XR = XNEW IF (XVAL - 6F0, 0.0) XR = XNEW COLPNT XOLD = XNEW COLPNT COLPNT RETURN COLPNT	212	CALL BUYLYUIA : NOWDANEW ILEY : WHO : Z		200	
IF (I .eU. J . ILEFT = KOND) GO TO 230 220 CONTINUE 230 XVAL = RHO(KORD.J) IF (XVAL .EO. 0.0) XR = XNEW IF (XVAL .ET. 0.0) XR = XNEW COLPNT XOLD = XNEW GO TO 210 COLPNT RETURN COLPNT COLPNT COLPNT RETURN		00 220 JET+KOKO		COLPNI	212
220 CONTINUE 230 XVAL = RMO(KORD-J) 230 XVAL = RMO(KORD-J) 1F(XVAL .00.0) XF = XNEW 1F(XVAL .00.0) XF = XNEW COLPNT XOLD = XNEW 60 TO 210 240 XC(1) = XF FETURN COLPNT FETURN				COLPAT	513
230 XVAL = RHO(KORD+J) If (XVAL - EG. 0.0) XR = XNEW IF (XVAL - LT. 0.0) XR = XNEW COLPNT IF (XVAL - LT. 0.0) XR = XNEW COLPNT AOLD = XNEW GO TO 210 COLPNT RETURN COLPNT COLPNT COLPNT EACH - COLPNT				COLPNT	214
IF (XVAL .EQ. 0.0) XF = XNEW COLPNT IF (XVAL .CT. 0.0) XF = XNEW COLPNT IF (XVAL .LT. 0.0) XF = XNEW COLPNT XOLD = XNEW COLPNT 60 TO 210 COLPNT RETURN COLPNT FELDRA		XVAL = RHO(KORD+J)		COLPAT	215
IF (XVAL .GT. 0.0) XR = XNEW COLPNT	215	1 XX C		COLPNT	216
IF (XVAL .LT. 0.0) AR = ANEW COLPNT) XL =		COLPNT	217
XOLD = XNEW GO TO 210 GO TO 210 COLPNT ENTURN COLPNT COLPNT		0.0) XR =		COLPNT	912
60 TO 210 240 XC(1) = XP COLPNT RETURN COLPNT				COLPNT	219
240 KC(1) = XP COLPNT RETURN FULL FULL COLPNT		60 70 210		COLPNT	220
RETURN	220	X		COLPNI	221
24100	! !			TAG IOC	222
				120	200

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178 14.26.15
03/19/78
FTN 4.5+452
OPT=1 RUUND=+=+/ TRACE
16/16

C THIS SUBROUTINE IS PART OF THE H-SPLINE FACEAGE FOR THE STABLE BSPLVD C EVALUATION OF ANY B-SPLINE RASIS FUNCTION OR DERIVATIVE VALUE.
SEE PEFERENCE BELOW.
8-SPLINES WHICH DO NOT VANISH AT X. THE HOUTINE FILLS THE TWO-
DIMENSIONAL ARRAY VAIRX (0.100RIV), DHIOTAIV, OK BITT NORMYO
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VIEW # 1991 F OF BLSP! INE VALUES AND DEFENDES.
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OIFF H XT(IPXED) LXT(I) BSPLVD

SUBPOUTINE HSPLVD	HSPLVD	76/76	OPT=1 PUUND=+-+/ TRACE	FIN 4.5+452	03/19/78 14.26.15	14.26.15	PAGE
					BSPLVD	56	
		00 60 L=1+3	J 68 [=10]		BSPLVD	0.0	
	2 5	A(L.) = (A(L.)			BSPLVD	63	
	2	I .			BSPLVD	62	
					BSPLVD	63	
		00 10 20			BSPLVD	*9	
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		CLOS STANDINGS			BSPLVD	69	
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,	SUMMOUTINE MSPLVN (xT. JMIGH. INDEX. X. ILEFT. VNIKX)	SPLVA SPLVA	OJ 7
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_	THIS SUBROUTINE IS PART OF THE H-SPLINE PACKAGE FOR THE STARLE	2 A C C C C C C C C C C C C C C C C C C	• •
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,	. JEF REFERENCE SELON.	BSEL VA	٥
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•	I LAICULATES THE VALUE OF ALL PUSSIBLY NONZERO H-SPLINES AT THE	HSPL VN	æ
_	C POINT K OF OPDER MAK (LHIGH. (L+1) (INDEX-1)) FOR THE HMEAKPOINT SEO-	BSPLVN	ø
		HSPI VN	10
		27135	: -
		BCP. VN	~
•	C. FOR DEFINITIONS OF CALING APPOINTS SEE ABOVE AND BSPLVD.	HSPLVN	13
		BSPL VN	14
. •		HSPL VN	15
<i>.</i>	,	HSPL VN	16
	C DEHOOP. C PACKAGE FOR CALCULATING RITH M-SPLIVES. SIAM J.	BSPL VN	17
_	C. NUMER. ANAL., VOL. 14, NO. 3. JUNE 1977. PP. 441-472.	FSPL VN	91
_		HSPLVN	19
_	PACKAGE ROUTINES CALLED	HSPLVN	20
٥	C USEH HOUTINES CALLED NOWE	HSF. KP	7
•	C CALLED BY BS*LVD	BSPLVA	د2
_	C FORTHAN FUNCTIONS USED. NONE	HSPL VN	53
•		- HSPLVN	47
	DIMENSION XI(1).VNIKX(1)	おいてくい	2 5
ζ,	DIMENSION DELTAM(20) .UELTAM(20)	HSPL VN	97
	DATA J/1/*DELTAM/20*0.E=0U/*DELTAP/20*0.	HSPLVN	27
	66. TO (10.20) 1700FX	BSPL VA	28
	10 C 1	HSPLVN	5.7
		HSPL VN	30
30	17 (1. see. Ullet) 60 to 40	HSPL VN	31
	00 to 1 to	BSPLVN	32
		#SPLVN	E.E.
		HSFL VN	34
	OEL JA () TA (HSPLVN	35
35	CHPREV H 0.	おいとしくな	35
	(P) = (Q)	FSFL VA	37
	00 30 L=1∙C	BSPL VN	**
	UP1ML = UF1	からとしてい	96
	VM = VNIKX(L) / (DELTAPIL) + DELTAPICAPIN())	#5PL VN	ņ,
0.	VNIXX(1) = V**(FLTAPit) • V*PXEV	MSPL VA	T *
	30 VETDEV II VERDELTAR(UTIT)	45PL VR	٠,
	VNIKX(LPI) = VMFREV	47 J484	6 3
	المن ال ال	HSPLVN	3,
	IF (1 .LT. LIIGI) 60 TC + 1	HSPLVN	4.5
* 5	40 RETURN	HSPL VA	9
	12 P	HSPLVN	

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SUGMOUTINE INTERV (XT. LAT. X. ILEFT. MFLAG.)	• MFLA()	INTERV	8
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	OH DEMINATION VALUE.	N 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	n ·
C SEE REFERENCE BELOW.		7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	•
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C COMPUTES LARGEST ILEFT IN (1.LAT) SUCH THAT XT (ILEFT) .LE. X. THE	AT XT (ILEFT) .LE. X. THE	N L E	30
	THE VALUE OF ILEFT THAT WAS	INTERN	•
	VED IN THE LOCAL VARIABLE	INTERV	9
	ASE THAT THE VALUE OF X ON	12157	
	HE PREVIOUS CALL. SHOULD	INTERV	12
	DGRAM LOCATES ILU AND IHI	INTERV	13
	ONCE THEY ARE FOLING LISES	TATER	_
	FEET MEI AC TO AN EDUCID STAGE	TATEDA	2
		7091	: :
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C FOR DEFINITIONS OF CALLING ARGUMENTS SEE ABOVE AND ESPLYD.	ABOVE AND MAPLYD.	INTERV	-
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C PEFERENCE		INTERN	2
		INTERV	20
20	TH B-SPLINES, SIAM J.	コンイホエン	2
	477. PP. 441-472.	INTERV	22
		INTERV	23
C PACKAGE ROUTINES CALLED. NONE		INTERV	*2
		INTERV	52
CALLED BY	VALUES	INTERV	26
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30 1STEP # 1		INTERV	42
		INTERV	₩
ILO = IMI - ISTEP		INTERV	:
IF (ILO .LE. 1) 60 TO 35		INTERV	\$
IF (X .6E. XT(ILO)) 60 TO 50		INTERV	•
ISTEP # 1STEP+2		INTERV	*
60 TO 31		INTERV	4
35 110 = 1		INTERV	¢
IF (X .LT. XT(1)) GO TO 90		INTERV	20
60 TO 50		INTERV	ž
***************************************		INTERV	52
C NOW X .GE. XT(ILU). FIND UPPER BOUND.		INTERV	53
		INTERV	Ç
40 ISTEP * 1		INTERV	55
41 1LO = 1H1		INTERV	26
٠		INTERV	27
1HI .6		INTERV	£

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SUBPOUTINE INTERV	INTER		76/16	.T 40) 1	OPT=1 FUUND=+=#/ TRACE	THACE	4	FTN 4.64456	254.	03/19/78	14.66.15	_
9	24	15 (X 15TEP 60 TO 15 (X	IF (X aLT, XT(1HI)) 40 TO 50 ISTEP = ISTEPP2 GO TO 41 45 M (LXT)) GO TO 110 ISTEP IN E LXT	7 (1H1) 302 7 (LX1)	3 60	70 50 70 110					10 11 11 11 11 11 11 11 11 11 11 11 11 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
şş	NON U	XT (ILO MIDDLE IF (MI	XT(1L0) .LE. X .LT. XT(1H1). HIDDLE = (1L0 + IH1)/2 IF (MIDDLE .EQ. ILO) GO TU 100	× . LT	xT(10100	C NOW XT(ILO) .LE. X .LT. XT(IHI). NAKHOW THE INTENAL. 50 MIDDLE = (ILO + IHI)/2 IF (MIDDLE .EQ. ILO) GO TU 100	1 2 1				4 U 9 C 9	
5	10V 0	C NOTE. 17	15 AS	SUMED	THAT	MIUULE	C NOTE IT IS ASSUMED THAT MIDDLE = ILO IN CASE IMI = ILO+1.	SE IHI	11.0	.1.		60 1	
	83	17 (X 11.0 # 10 TO 10 TO	IF (X .LT. XT(MIDDLE)) 60 TU 53 ILO = MIDDLE 60 TO 50 60 TO 50 60 TO 50	GOLAN	(6)	60 10 5	i .) 1 1 (1 1	! !) 		125.45.45.45.45.45.45.45.45.45.45.45.45.45	
	C	OUTPUT	C SET OUTPUT AND METURN.	TURN		-				• • • • • • •	1		
o a		MFLAG # 11 ILEFT # 1 RETURN	, , , , , , , , , , , , , , , , , , ,		i 	* ! ! !	90 MFLAG = 1 ILEFT = 1 RETURN	i 1 1 1 1 1		· · · · · · · · · · · · · · · · · · ·	IN TERV	0 - 0 - 0 0 c c c c c c c c c c c c c c	
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	C SAVEL:SAVEZ:SAVEZ THREE BUNKING STUFAGE ARKAYS: EACH OF LENGTH N.	STIFIA	25
	PE BLOCK OF LOCATIONS USED FOR THE CHURD ITERATION	STIFIE	63
		CTTETE	4
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		17.70	-
	C BORR-IBORK BOLKING AFKAYS BEICE AFF USED TO FASS AFFKUFFIATE	STIFIB	90
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20	C PACKAGE ROUTINEY DALLED	STIFIR	~
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	C CALLEU AY PDELOL	STIFIE	7.3
	COOTCAL SINCTINAL DAGED	21212	7.
	L	11 1 C	- 1
		STIFIB	7.5
75	DIMENSION Y (RO. 11 VIAC NO FIRCT (RO.) - SAVE 1 (RO.) - SAVE 2 (RC.) -	ST 1F 1B	92
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		D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 1
	COMMON /SIZES/ NINI+ROKO+NCC+NPDE+RCF1S+NEDN+15UAD	STIFIE	80
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C	CORRON NOTE AND MAINTENANT OF THE STREET OF	STIFIR	2
	TOTAL THE	200	• :
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	COXXOX /GEAX:/ IUSED.NIUSED.NSTEP.NFE.NUE	S71F18	70
	COMMON SUBSECTION OF THE PROPERTY OF THE PROPE	41111	1 1
	COLUMN YOUR TOWN THE PROPERTY OF THE PROPERTY	21118	•
	0.125.7010 FL (1.14) • 10 (4)	ST1F18	TO.
•) ;
5	DATA ELIZIVITA ULDLUVITA INITIVOTA IETVO	21118	9
	KFLAG * 0	STIFIB	6 4
	10.01	STIFIB	d
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	IF (JSTAFT .NE. 0) GO TO 1<0	STIFIB	0
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		21 17 10	7
		STIFIB	6
	C IN A SINGLE STEP. IT IS INITIALLY I.E4 TO COMPENSATE FOR THE SMALL	STIFIE	46
		CT 16 10	9
	TOURS TO THE POST OF THE POST	01 17 10	2.0
50		571718	9
	C FOR THE NEXT INCRESSE.	571F18	67
		STIFIE	9
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		27 - 6	9
100	CALL DIFFUR (N. 1. Y. SAVEI. IFR. TE. ITIV. BOXR. ISOKR.	ST 11 18	101
	IF (IEP .NE. 0) GO TU 605	ST1F1R	102
	No. 11 01 10 10	STIFIE	103
		CTIFIE	40.0
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OPT=1 ROUND=+-#/ TMACE
16/16
SUMMOUTINE STIFTB

115 120	NSTEP = 0 NSTEP_ = 0 NFE = 1 NFE = 1 1RET = 3 GO TO 130	571518 571516 571516 571516 571518	120
	IF THE CALLER HAS CHANGED METH: COSET IS CALLED TO SET THE COEFFICIENTS OF THE WETHOUS. IF THE CALLER HAS CHANGED THE WETHOUS THE CALLER CALLER THE CALLER THE CALLER THE CALLER THE CALLER THE CALLER CALLER THE THE CALLER THE CALLER THE CALLER THE CALLER THE CALLER THE CALLER	571F18 STIF18 STIF18	122
125	တို့ ဘူ ဗ	57171 571718 571718 571718	126 126 128 128
130	TURTHER TURTHER 120 IF (STIFIB STIFIB STIFIB STIFIB	0 E 2 E 2 E 2 E 2 E 2 E 2 E 2 E 2 E 2 E
135	METH # MF/10 MITER # MF - 10*METH MFOLD # MF IF (HITER ME MID) IMEVAL # MITER	STIFIE STIFIE STIFIE	25 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
140	IDOUB = L + 1 IRET = 1 ISO CALL COSET (METH, NO. EL, TG) LMAX = MAXDER + 1	STIFIB	
145	4C # MCPEL(1) / OLDLO OLDLO # FL(1) 140 FN # FL(1) EDN # FN+(TQ(1)*EPS)**2 E # FN+(TQ(1)*EPS)**2	STIFIE STIFIE STIFIE	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
150	EUP # FN+(Td(3)+EPS)++2 BND # FN+(Td(4)+EPS)++2 BND # FN+(Td(4)+EPS)++2 GO TO (160+ 170+ 200)+ IKET 150 IF ((EPS .EU. EPSOLD) .ANU. (N .EU. NULD)) GO TO 1.0 EPSOLD # EPS	STIFIE STIFIE STIFIE STIFIE	0 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
155	NOCLO = N IRET = 1 GO TO 140 160 IF (H .EQ. HULD) GO TO 200 BH = MYHOLD		55 55 55 55 55 55 55 55 55 55 55 55 55
160	IFEDO = 3 60 TO 175 170 RT = AMAXICH+FMIN/ AMS(H)) 175 RT = AMINICH+FMIN/ AMS(H)) 81 81 1.	STIFIE	1000
165	19 19 19 19 19 19 19 19 19 19 19 19 19 1		991 1091 1091
170	RC = RC*PH IDOUR = L → 1		171

SURKOUT	SUHKOUTINE STIFIH 76/76 OPT=1 HUUND=+-0/ THACF FIN 4.0+452 0	03/14/78	14.26.15
	(IMEDO .64. 0) GO TO 650	STIFIE	173
į		STIFIE	5.7
571	MULITERING THE Y BAKBY HY THE PASCAL THIBNOLF MATKING. TO IS THE COFFERINFY.	STIFIE	176
	C SHEN AC DIFFERS FROM 1 BY MORE THAN 30 PERCENT, UF THE CALLER HAS	STIFIR	178
		571616	671
180	C DE IS TAR CHORD THEFATION MATAIX A - BARL (1) + (CG/CV).	STIFIE	181
• !		STIFIE	787
	200 IF (AUS(KC-1.) .GT. 0.3) LMEVAL # MITER IF (NSTED .GF. NSTEDL+40) LFFVAL # FITER	STIFIE	163
		STIFIE	165
185	DU 210 J1 = 1.4NO	STIFIE	186
	00+10 = 20 012 00 21 + 11 + 00 H 1	S1 14 18	~ 4
	00 210 1	STIFIB	149
900	210 Y([-0] = Y([-0]) + Y([-0])	STIFIH	0 . 7
	C UP TO 3 CORRECTOR ITERATIONS ANE TAKEN. A CONVERGENCE TEST IS	STIFIE	165
	C MADE ON THE R.M.S. NORM OF EACH CORRECTION. USING MND. WHICH	ST1F18	193
	C IS DEPENDENT ON EPS. THE SUM OF THE CUFFECTIONS IS ACCUMULATED	STIFIB	*
	C IN THE VECTOR ENGINE (1). THE T SHIMST IS NOT SHIELD IN THE CONNECTOR	STIFIR	50 ·
195	C LOOP. THE UPDATED T VECTOR IN SAVED. TERROTARILY IN SAVET.	STIFIB	0 P 7
		STIFIE	100
	Z • ~	STIFIB	657
	SAVE2(1)	STIFIE	00×
200	230 EFFOR(1) # 0.	571618	202
	1	STIFIE	203
	CORP. SOFK (ISIA) SORK (ISIA) SOFK (ISIA) SOFK (ISIA)	STIFIE	\$ 0.4 7
	NFE H NFE + 1	STIFIB	502
205	IF (INEVAL .LE. 0) 60 TO 350	STIFIE	902
	bliste between the control of the co	87 17 10	, i
	C OF MODICATION THE MATCH AND MENUAL OFFICER STARTING THE	STIFIB	30 00 00 00
	C TAAT TIES TAS BEEN DONE. PA IS COPULED AND PROCESSED IN PSETIE.	STIFIE	230
210		STIFIE	211
	IMEVAL = n	STIFIR	212
	FC # 1.	STIFIR	213
	[+ → DZ = DZ	STIFIE	417
215	70 H 184 H 195	21111	677
	CALL PSFTIR (Y. PR. NO. CON. FITER. IER. BORR (IBI). IBORK.	STIFIE	217
	# EDTE (IET) - TODE - TODE - APPARAMENTAL - TODE -	STIFIH	618
	* BORK ([B]3) * BOAK ([B]6 0 BOKK ([B]4) * ACKK ([B]7) * BOKK * NPDE)	STIFIE	617
	IF (IEW .NE. 0) GO TO 420	STIFIE	027
0 7 7	CORPUTE THE CORFECTOR EXFORM A SUR MA AND S	STIFIE	262
	C BITH THAT AS A LETT-HAND SIDE AND PR AS CORPFICIENT MATHIX.	STIFIB	223
		STIFIB	224
225	Consequently Cold (Consequently Consequently Consequently Consequently Consequently Cold (Consequently Consequently Consequen	STIFIE	\$ 60
1	-	STIFIA	257
	U() 3H0 1 = 1+N	STIFIH	977
	EMMOD(I) = EMMOD(I) + SAVE3(I)	STIFIE	677

SUMBOUT	SUMPOUTINE STIFIH 76/76 OPT=1 HOUND=+-+/ THACF FIN 4.6+45	U3/14/78	14.26.15
230	D = D + (SAVE3(1)/YMAX(1))++2 SAVE1(1) = Y(1+1) + tL(1)+fkyOR(1) SAME CANTOLS - Y(1+1) + tL(1)+fkyOR(1)	STIFIR	630 631
	C TEST FOR CONVEMENCE. IF M.61.0. AN ESTIMATE OF THE CONVEMENCE	STIFIE	6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
635	C MATE CONSTANT IS STOKED IN CKAIT, AND TRIS IS USED IN THE TEST.	STIFIE	6.45 6.36
	400 IF (B "NE" U) CRATE # AMAXI("JeCRATF"J/CI) IF (CDAMINALCI, FO. 2 - 4 CAART) - F B HIL) G: TO 450	STIFIE	, 37 , 58
			577
240	IF (* .EG. 3) GO TO 4.10		0 7
	CALL REGIT - 1. SAVEL SAVEL SAVER. YPUE - ZCPTS - ZCLX (ZZ)) - ZCTX - ZCZX - ZCZX (ZZ)) - ZCZX (ZZ))		2 42 2 43
	64 70 350		4 1
245	C THE COFRECTOR ITERATION FAILED TO CONVENCE IN 3 THIES.	ST 14 16	2 4 5 2 4 6
	C IF THE MATRIX PD IS NOT UP TO DATE, IT IS MEEVALUATED FUM THE	STIFIB	247
	C NEXT TRY. OTHERWISE THE Y ARRAY IS METFACTFO TO ITS VALUES C DEFONE PREDICTION. AND H IS REDUCED. IF FUSSIBLE. IF NOT. A	STIFIB	Ø 27 4 4 7 4 7 4 7 4
•	C NO.CONVEHGENCE EXIT IS TAKEN,	STIFIB	650
057	Cossessates estates es	STIFIE	(5)
		ST1F18	, , , , , , , , , , , , , , , , , , ,
	420 T = TOLD	STIFIE	254
		STIFIE	255
622	ON•1 H 17 OFF OO	ST 11 18	657 757
	J = (NG + J1) = J2	STIFIE	258
	N°1 s 1 0E 00	ST1F18	259
340	THOUSEN THE CONTRACT OF THE CO	511518	000
	TAR IN PASSED SELECTION OF THE	STIFIB	262
	IAE00 * 1	STIFIE	263
		STIFIB	264
346	TALE AND OPPORT	5711418	505
697	,	ST1F18	667
	C THE CURRECTOR HAS CONVERGED. INEVAL IS SET TO -1 TO SIGNAL	STIFIB	208 208
	C. THAN THE MAY NOTE: UNDERSTOOD STORES STORES OF THE TAXON TO STORE TO STORE THE STORES OF THE STOR	21111	507
670		STIFIE	~~>
•	450 IMFVAL s =1	STIFIB	572
	Nefer in Nefer to the Party of	STIFIE	273
	10 H CC	STIFIE	274
275	C++((') X W X / (') X (W / (') X	ST 15 15	5,2
1	-	STIFIE	277
		STIFIE	47.5
		5115	\$ 1 X
280	C IF 1000B IS THEN 1 AND NO .LT. MAXDER. THEN EHAUN IS SAVED FOR	STIFIB	661
		STIFIA	262
		STIFIB	M) 4
	C FACTON OF AT LEAST 1.1. IF NOT. IDOUR IS SET TO 10 TO PHEVENT	STIFIE	265 265
582		STIFIR	922

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FAGE

SURROUTINE	i STIFIB	76/76	0P7#1	HULNDH	OPTEL HOUNDS/ TRACE	4	74+0+4 N	ž	03/19/76	14.26.15	
									STIFIE	782	
	KFLAG	0 #							STIFIE		
	IREDO	0 = 0							ST1+18		
	NSTER	H MSTEP + 1	 •						STIFIE		
290	MUSED	I H Q							STIFIH		
	REUSE	NGUSED = NO							STIFIB		
	DO 470 J	70 J = 1.L	_						STIFIE	683	
	00		Z . T						STIFIE		
	¥ 10	* ([.]) *	Y(1,41) +	+ EL (3)4	EL (J) SERFOR (I)				STIFIE		
295	15 (1	DOOUR . EG	1) 60	1 TO 5cu					STIFIE		
	10001	HOUDI = H	-						STIFIR	29.7	
	16 (1	Toous . eT	11 60	1 TC 760					STIFIB		
	1F (L	Ea. LF	4X) 60	10 700					STIFIB		
	500	90 I = 1.	z						STIFIB		
300	490 Y(1	0 Y(I.LMAX) = ERROH(I)	ERRUH (1					STIFIR	301	
		0 200							STIFIB		
	C						******		STIFIE		
		R TEST FA	ILED.	KFLAG KE	EPS THACK OF	MULT IFL	E FAILU	RE 5.	STIFIE		
		T AND THE	Y ARR	Y TO THE	IN PREVIOUS	VALUES.	AND PRE	PAME	STIFIE		
305		TO THY THE STEP AGAIN.	GAIN.	COMPUTE	THE OPTIMUM	STEP SIZ	E FOR T	HIS 04	STIFIB		
		R OPDER.							STIFIB		
							******		STIFIB		
	500 KFLA6	500 KFLAG = KFLAG - 1	~						STIFIB		
	# -	= TOLD							STIFTE		
310	15 00	10.01	- 100						21112		
;	2		0,4						31 17 18		
	3	Putto = 20 nto							97 17 18		
	,			30					91 11 19		
		00 510 1	2						STIFIB		
	510	Y(I+C) = Y(I+C)	7.11.4	(I+C+1) A - ((1.5				STIFIB		
315	XVXX	WMAX = 2.							STIFIB		
) 11	ABS(H)	LE. MI	3300 T+N	11) 60 To 660	_			STIFIB		
	#) 4I	KFLAG .LE	3) 6	10 TO 640					STIFIR		
	IMEDO	5 = 0							STIFIE		
	PR3 a	# 1.E+20							STIFIA		
320	60 TC	60 TO 540							STIFIE		
			******						STIFIB		
		SS OF THE	SUCCES	S OR FAI	THE OF THE	STEP. FA	CTORS		STIFIE		
	C PRI PHZ	AND PR3	APE CO	MPUTEU	PRI. PRE. AND PRE ARE COMPUTED. BY WHICH H COULD HE DIVIDED	OULD HE	UIVIDED		STIFIH	324	
		NO - 1	ORDER N	10 . OR UF	DEM NO . 1.	RESPECTI	VELY.		STIFIB		
325		ASE OF FA	TL URE.	PK3 = 1	EZO TO AVOID	AN ORDE	INCHE	ASE.	STIFIE		
		FST OF T	HESE IS	DETERMI	NED AND THE	NEW DRUE	H CHOSE	z	STIFIE		
		SLY. IF	THE ORD	EH IS TO	HE INCHEASE	D. WE CU	MPUTE 0	Ā	STIFIE		
		AL SCALER	DEPIVA	TIVE.					STIFIH		
									HIJIIS		
330	520 PH3 =	0 PH3 = 1.E+20							STIFIE	131	
	15 CL	EQ. LM	AX) 60	TO 540					STIFIH		
	10	•							STIFIH		
	00 53	30 1 = 1.0	z						STIFIH		
	530 01	U1 = D1 + ((EMROP(1)	(EHROP	1) - (1	Nest (I) Kerk/ (Xerision) -	Z**((I)			STIFIB		
335		= .5/ FL	OAT (L+1	_					STIFIE		
	PR3 a	PP3 = ((D1/EUP) ++ENG3) +1.4	DN3++ Cd	4.	+ 1.4E-0h				STIFIE		
	540 ENG2	FN02 = .5/ FLOAT(L)	OAT (L)						STIFIE		
		PP2 = ((D/E)**ENG2)*].2 + 1.26-06	• (20N3 •	1.6 . 1.	2€-06				STIFIH	956	
	710	PH] = 1.F+20							STIFIE		
340	₹ 1.	IF (No .Fo. 1)	1 60 TO 500	900					ST11 1H		
	0 # 0	•							STIFIH		
	46 00	N. 1 = 1 00	2						STIFIH		

SURPOUT	SUBBOUTINE STIFIA 76/76 UPT=1 FOUND***/ TRACE FTN 4.6+45/	03/19/76	16.26.15
	550 D = D + (Y(1-L)/YMAX(1))+42	STIFIE	346
	ENGT = .5/ FLOAT(NG)	STIFIE	345
345		STIFIH	346
		STIFIR	547
	IF (PR3 -LT. PR1) GO TU 590	STIFIH	348
		STIFIE	345
	570 IF (PRZ .6T. PR]) G0 T0 5eu	STIFIB	350
350	ZEC H ZO	STIFIB	ssl
	EXT N 3./PR2	STIFIE	352
	029 01 09	ST 11 18	353
	SECOND 1	STIFIB	354
		STIFIE	355
250		51 15 18	900
	מעסר ארבים וו	21 11 18	20.5
	THE LANGE OF THE WAY	211110	900
	11	STIFLE	* C 4
360	600 V(1. NFMS+1) H FRROP(1)+FLOAT(1)	31115	
3	60 10 630	STIFIE	295
	01 # ADOUT 014	STIFIB	363
	60 TO 700	STIFIE	364
	620 IF ((KFLAG .EQ. 0) .AND. (MH .LT. 1.1)) 60 TO 610	STIFIB	365
365		:	366
	C IF THERE IS A CHANGE OF ONDER, RESET NG. L. AND THE COEFFICIENTS.		367
	C IN ANY CASE H IS RESET ACCORDING TO HH AND THE Y AHRAY IS RESCALED.		368
	C THEN EXIT FROM 690 IF THE STEP BAS ON. OF KEDO THE STEP OTHERWISE.		369
		;	370
2	CAT OF ON THE WAY AT THE CAT OF T	81 41 18	3.5
		81416	3/2
		31113	37.5
	60 TO 130	011110	37.6
376		STIFIF	376
•	C CONTROL REACHES THIS SECTION IF 3 OF MORE FAILURES HAVE DECUMED.	STIFTE	111
	C IT IS ASSUMED THAT THE DERIVATIVES THAT HAVE ACCUMULATED IN THE	STIFIR	378
	C Y ARRAY MAVE EMMORS OF THE WHUNG ORDER. HENCE THE FIRST	STIFIR	379
	C DEMIVATIVE IS MECOMPUTED. AND THE URDER IS SET TO 1. THEN	STIFIR	360
380	C H IS REDUCED BY A FACTOR OF 10. AND THE STEP IS RETHIED.	STIFIR	361
	C AFTER A TOTAL OF T FAILURES, AN EXIT IS TAKEN WITH KFLAG = -2.	STIFIE	382
		STIFIB	383
	CAU II (KFLAC -FU/) GO TO O'G	#1 41 LS	486
306	IN O. A STATE OF THE PROPERTY AND THE PR	21 11 15	262
607	THE TATABLE TO A SOUTH TO THE TATABLE TO THE TATABL	STIFIB	26.7
	1678 H O	STIFIE	90
	CALL DIFFUN (N. T. Y. SAVEI. IER. PN. IFIV. MOKK. INDKK)	ST1F18	389
	NE. 0 1 GO TO 685	STIFIB	390
390	ALE + 1	STIFIE	391
	N.1 = 1.050 OG	STIFIB	392
	650 Y(1.2) # H*SAVE1(1)	STIFIE	393
	Tayler Taylor	S11118	4 2 5
305	15 (NO -EG) 1 (S) TO 200	414115	245 465
		STIFIE	35.0
		ST 1F 1B	348
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	60 70 130	STIFIE	00*

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SUBPOUTINE GFUN COMPUTES THE FUNCTION UNDTEGIC; T; THE RIGHT— GFUN HAMD SIGO THE SEN_DISCRETE APPROLIMITION TO THE UNIGHAL SYSTEM OF PARTIAL DIFFERNIAL EQUATIONS AND UPDATES THE BUNDARY GFUN GFUN MONE UNDER COLLED. DECAMEE ROUTINES CALLED. DIFFERNION OF CHARGE ARCTS; JUDITAPDE JACKTS DIFFERNION ALISE CHAPTER APPLETIBLES COMMON SITES A MINTKORD: JUDNE(4), ZGLUS DO 10 121,NPDE DO 10 121,NPDE DO 10 121,NPDE DO 10 121,NPDE CALLED. SAVE LEFT GOUNDARY VALUES. SAVE LOS DESTRUCTION OF THE FIRST SAVE LOS GFUN GFUN GFUN GETON BO 30 KEILWED CALL EVALLIANDE CALVALIATION OF THE SAVE LOS GFUN GFUN GFUN GFUN GFUN GFUN GETON DO 30 KEILWED SAVE SAVE SAVE SAVE SAVE SAVE SAVE SAVE		2 N	
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USER ROUTINES CALLED. EVAL USER ROUTINES CALLED. EVAL DIFFUSION C(1400E.*4CPT) : UNDOT (1400E.*3) : LLEFT(1) FORTRAM FUNCTIONS (USED. MONE DIMENSION A(1) : BC(1400E.*4CPT): UNDOT (1400E.*3) : LLEFT(1) FORTRAM E TOOL TO A(1) : BC(1400E.*4CPT): UNDOT (1400E.*3) : LLEFT(1) FORMING A(1) : BC(1400E.*4) : AC(1) : UNDA (1400E.*3) : LLEFT(1) FORMING A(1) : BC(1400E.*4) : AC(1) : UNDA (1400E.*3) : LLEFT(1) FORMING DISTRIBUTE DO 10 : Ba.NDDE DO 10 : Ba.NDDE DO 10 : Ba.NDDE DO 10 : Ba.NDDE CALL EFT DOUNDARY VALUES. SAVE LEFT GOUNDARY CONDITION GEON FOR SAVE LEFT DOUNDARY VALUES. SAVE LEFT GOUNDARY CONDITION GEON FOR SAVE LEFT DOUNDARY VALUES. SAVE LEFT GOUNDARY CONDITION GEON CALL ENTRY COLOR SAVE LEFT GOUNDARY VALUES. SAVE LEFT GOUNDARY CONDITION GEON CALL ENTRY COLOR SAVE LEFT GOUNDARY VALUES. SAVE LEFT GOUNDARY CONDITION FOR SAVE LEFT ACTION AND LIARS SAVE LEFT GOUNDARY CONDITION FOR SAVE LEFT ACTION AND LIARS SAVE LEFT GOUNDARY CONDITION FOR SAVE LEFT ACTION AND LIARS SAVE LEFT GOUNDARY CONDITION FOR SAVE LEFT ACTION AND LIARS SAVE LEFT GOUNDARY CONDITION FOR SAVE LEFT ACTION AND LIARS SAVE LEFT GOUNDARY CONDITION FOR SAVE LEFT ACTION AND SAVE LEFT GOUNDARY CONDITION FOR SAVE LEFT ACTION AND LIARS SAVE LEFT GOUNDARY CONDITION FOR SAVE LEFT ACTION AND LIARS SAVE LEFT GOUNDARY CONDITION CALL EMALL FOR SAVE LEFT SAVE LEFT GOUNDARY CONDITION CALL EMAL REAL RECEIPS TO SAVE LEFT SAVE L		6FUN	-
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DIMENSION CONDERNOCTSUUDTOPE.NUPTS) GFUN	FOUTDAM FUNCTIONS SEED	S 100	•
DIMENSION C(WPDE.NCPTS).UUD7(NPDE.NCPTS)	- CN-NN CNC-1CN- COLC NCN-	10 Lg	•
DIMENSION ALI, BG(CHOPE, NPUE, +), AC(1), UVAL (NPUE; 3), ILEFT(1) GFUN CONMON / SIZES/ NINT, BG(CHOPE), DSJUA(NPDE; NPUE) GFUN CONMON / SIZES/ NINT, NGOD, LUUM(+), LUUAG GFUN GFUN DO 10 Jainned GFUN GFUN DO 10 Jainned GFUN G	DIMENSION C(NPDE+NCPTS) - UDOT (NPDE+NCPTS)	S C S	
DIMERSION DEDT(MPDE, MPDE)	DIMENSION A(1) - GC (NPOL - NPOL + A) - XC (1) - UVAL (NPOE - 3) - ILEFT (1)	STUN	_
DOD 10 K=1.4 DOD 10 K=1.4 DOD 10 L=1.4 DOD 10 LOCATION IN THE LAST 2.4 DOD 10 LOCATION IN	DIMENSION DZD1 (NPDE), GGUU (NPDE, NPDE), DGUUX (NPDE, NPDE)	SFUR	
00 10 131,NDE	COMMON /SIZES/ MINT.KORD.IUUM(4) LIUUAD	GFUN	
DO 10 ISINPDE DO 10 ISINPDE DO 10 ISINPDE BC(11-1,K) = 0.0 BC(DO 10 Km1.4	GFUN	(U
DO 10 131, WINDE DO 10	30 10 Jall + MDI	SFICE	יטיי
10 CONTINUE 10 CONTINUE 10 CONTINUE 11 CONTINUE 12 CONTINUE 12 CONTINUE 13 CONTINUE 14 COD TO FORM RIGHT SIDE OF ODES AT THE COLLOCATION POINTS, GFUN 15 CONTINUE 16 CONTINUE 17 CONTINUE 17 CONTINUE 18 CONTINUE 20 CONTINUE 20 CONTINUE 30 CONTINUE 40 CONTINUE 41 CONTINUE 42 CONTINUE 44 CONTINUE 45 CONTINUE 46 CONTINUE 46 CONTINUE 47 CONTINUE 48 CONTINUE 48 CONTINUE 48 CONTINUE 49 CONTINUE 40 CONTINUE 40 CONTINUE 40 CONTINUE 40 CONTINUE 41 CONTINUE 42 CONTINUE 44 CONTINUE 45 CONTINUE 46 CONTINUE 47 CONTINUE 48	DO 10 121 NPDE	SFUN	
UNDOTE THE LEFT HOUNDARY VALUES, SAVE LEFT GUNDUARY CONDITION UNFORMATION IN THE FIRST 2*NPUE*NPDE LOCATIONS OF 9C. CALL EVAL(1.NPDE.C.UVAL.A*. LEFT) CALL EVAL(1.NPDE.C.UVAL.A*. LEFT) CALL ENGRY (**XC(1)*UVAL.UVAL(1.2)*UVAL(1.3)*UVOT*NPDE) GFUN CALL FORD ** DO 30 K31.NPDE BC(K.X*1) = 1 ILIM = KORD ** BC(K.X*1) = 0.0 O 20 J31.NPDE BC(K.X*1) = 0.0 O 20 J31.NPDE BC(K.J*1) = DAPOUK(K.J) BC(K.J*1) = DAPOUK(K	0.0 H (X-1-1) THE CASE OF THE	25.0	
UPDATE THE LEFT HOUNDAHY VALUES, SAVE LEFT BUUNDAHY CONDITION INFORMATION IN THE FIRST 2*NPUE*NPDE LOCATIONS OF BC. GFUN CALL EVAL(1.NPDE.C.UVAL.*1.LEFT) CALL EVAL(1.NPDE.C.UVAL.*1.LEFT) CALL EVAL(1.NPDE.C.UVAL.*1.LEFT) CALL FITXC(11.VVAL.VVAL.1.VAL.).DEDUX(N.NDE) GFUN CALL FITXC(11.VVAL.VVAL.1.LEFT) CALL FITXC(11.VVAL.VVAL.1.LEFT) DO 30 K=1.NPDE BC(K.K.1) = 1. ILIM = KORD * 2 GFUN GFU		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	v .v
INFORMATION IN THE FIRST 2*NPUE*NPDE LOCATIONS OF 9C. INFORMATION IN THE FIRST 2*NPUE*NPDE LOCATIONS OF 9C. CALL EVAL(1.NPDE.C.UVAL.A.*ILEFT) CALL EVAL(1.NPDE.C.UVAL.A.*ILEFT) CALL ENDRY(T.XC(1).UVAL.UVAL(1.2).UVAL(1.3).UVDT.NPDE) GFUN CALL EVAL(1.NPDE.C.UVAL.A.*ILEFT) CALL BUDRY(TX.XC(1).UVAL.UVAL(1.2).UVAL(1.3).UVDT.NPDE) GFUN GFUN GFUN GFUN GFUN GFUN GFUN GFUN BC(K.A.*1) = 1. BC(K.A.*2) = A(ILIM) * UBDUX(K.A.) BC(K.A.*1) = 1. BC(K.A.*1) = DARD(K.J.) * BC(K.J.Z.) GFUN GFUN BC(K.A.*1) = DARD(K.J.) * BC(K.J.Z.) GFUN	201	65 UN	ų n
MOTE. UVAL(K+1) = U(K), UVAL(K+2) = UX(K), AND UVAL(K+3] = UXX(K), GFUN CALL EVAL(1:NPDE.C.UVAL.A.ILEFT) CALL EVAL(1:NPDE.C.UVAL.A.ILEFT) CALL EVAL(1:VAL.UVAL.UVAL.1:2).UVAL(1:3).U00T.NPDE) GFUN CALL F(T.XC(1).UVAL.UVAL.UVAL(1:2).UVAL(1:3).U00T.NPDE) GFUN GFUN GFUN GFUN DO 30 K=1;NPDE BC(K+3.1) = 1 FC(K+3.2) = A(ILIM) * UMDUX(K+2) BC(K+3.2) = A(ILIM) * UMDUX(K+2) BC(K-3.2) = A(ILIM) * UMDUX(K+2)	INFORMATION IN THE FIRST PANDULAND	SFUN	J 17
NOTE UVAL(K+1) = U(K), UVAL(K+2) = UX(K), AND UVAL(K+3] = UXX(K), GFUN CALL EVAL(1)*UPDE.C.*(UVAL-A-1)LEFT) CALL ENDRY(T.XC(1)*UVAL-UVAL(1)*2)*UVAL(1)*3)*UDDT*NPOE) GALL F(T.XC(1)*UVAL-UVAL(1)*2)*UVAL(1)*3)*UDDT*NPOE) GALL F(T.XC(1)*UVAL-UVAL(1)*2)*UVAL(1)*3)*UDDT*NPOE) GFUN GFUN GFUN GFUN GGUN DO 30 K=1,NPOE BC(K+3,1) = 10 DBUUX(K,K) *E4, D.0) 60 TO 30 GFUN GFUN GGUN DO 20 J=1,NPOE BC(K+3,1) = DADU(K*3) *BC(K+3,2) BC(K+3,1) = DADU(K*3) *BC(K+3,2) GFUN GGUN BC(K+3,1) = DADU(K*3) *BC(K+3,2) GGUN GGUN AND CONTINUE CALL EVAL(1:NPOE.C.*UVAL(1)*2)*UVAL(1)*3)*UDOT(1;1)*NPUE) GFUN CALL EVAL(1:NPOE.C.*UVAL(1)*2)*UVAL(1)*3)*UDOT(1;1)*NPUE) GGUN CALL EVAL(1:NPOE.C.*UVAL*3)*UVAL(1)*3)*UDOT(1;1)*NPUE) GGUN CALL EVAL(1:NPOE.C.*UVAL*3)*UVAL(1)*3)*UDOT(1;1)*NPUE) GGUN CALL EVAL(1:NPOE.C.*UVAL*3)*ULEFT) GGUN CALL EVAL(1:NPOE.C.*UVAL*3)*ULEFT) CALL EVAL(1:NPOE.C.*UVAL*3)*ULEFT) CALL EVAL(1:NPOE.C.*UVAL*3)*ULEFT) GGUN		GFUN	, ru
CALL EVAL(1,NPDE,C.UVAL,A. LEFT) CALL BNORY(T,XC(1),UVAL,UVAL(1).2),UVAL(1.3),UDDT,NPDE) (CALL BNORY(T,XC(1),UVAL,UVAL(1).2),UVAL(1.3),UDDT,NPDE) (CALL F(T,XC(1),UVAL,UVAL(1).2),UVAL(1.3),UDDT,NPDE) (CALL F(T,XC(1),UVAL,UVAL(1).2),UVAL(1.3),UDDT,NPDE) (CALL F(T,XC(1),UVAL,UVAL(1).2),UVAL(1.3),UDDT,NPDE) (CALL EVAL(1,NPDE) (CALL EVAL(1,NPDE,C.UVAL,A. LEFT)	NOTE UVAL (K.1) = U(K). UVAL (K.2) = UX(K). AND UVAL (K.3)	GFUN	"
CALL EVAL(1,4PDE.C.,UVAL.01-21). DEBUNY,DZUT,NPDE) CALL ENDRY(T,XC(1),4UVAL.01VAL(1,2), DEBUNY,DZUT,NPDE) CALL F(T,XC(1),4UVAL.01VAL(1,2), DEBUNY,DZUT,NPDE) CALL F(T,XC(1),4UVAL.01VAL(1,2), DEBUNY,DZUT,NPDE) CALL F(T,XC(1),4UVAL.01VAL(1,2), DEBUNY,DZUT,NPDE) CALC EVAL(1,1) = DADTOT(K) CALC EVAL(1,1) = DADTOT(K) CALL EVAL(1,1) = DADTOT(K) CALL EVAL(1,1) = DADTOT(K) CALL F(T,XC(1),4UVAL,1) + GECK,J,Z) CALL EVAL(1,4NPDE,C,4UVAL,1,Z) CALL F(T,XC(1),4UVAL,1,Z) + GEUN CALL F(T,XC(1),4UVAL,1,Z) + GEUN CALL F(T,XC(1),4UVAL,1,Z) + GEUN CALL EVAL(1,4NPDE,C,4UVAL,1,Z) + GEUN CALL F(T,XC(1),4UVAL,1,Z) + GEUN CALL F(T,XC(1),4UVAL,1,Z) + GEUN CALL EVAL(1,4NPDE,C,4UVAL,1,Z) + GEUN CALL EVAL(1,4NPDE,C,4UVAL,1	Cake a second se	. GFUN	m
CALL F(T, XC(1), UVAL, UVAL(1,2), DEBUN, DEDUX, DZOU, NPDE) CALL F(T, XC(1), UVAL, UVAL(1,2), UVAL(1,3), UDOT, NPDE) CALL F(T, XC(1), UVAL, UVAL(1,2), UVAL(1,3), UDOT, NPDE) GFUN GFUN GFUN GFUN GFUN GFUN GFUN DO 20 J=1, NPDE BC(K,J,2) = A(ILIM) * UBDUX(K,J) GFUN CONTINUE 30 CONTINUE 30 CONTINUE 30 CONTINUE 30 CONTINUE 40 CONTINUE AD 40 1=2, 1LIM CALL EVAL(1, NPDE, C, UVAL, A, ILEFT) CALL F(T,XC(1), UVAL(1,2), UUAL(1,3), UUOT(1,1), NPUE) GFUN CALL EVAL(1, NPDE, C, UVAL, A, ILEFT) CALL F(T,XC(1), UVAL, UVAL(1,2), UUAL(1,3), UUOT(1,1), NPUE) GFUN CALL F(T,XC(1), UVAL, UVAL(1,2), UVAL(1,3), UUOT(1,1), NPUE) GFUN CALL EVAL(1, NPDE, C, UVAL, A, ILEFT)		GFUN	m.
ILIM # KORD + 2 GFUN GFU		GFUN	.a
	CALL F(T.XC(1), UVAL, UVAL (1.2), UVAL (1.3), UDOT, NPUE)	SP CN	
DOUGH STATE OF STATE	0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ST CR	
		N 10 10 10 10 10 10 10 10 10 10 10 10 10	.
11 UDDOT(K.1) = DZDT(K) DD 20 J=1,NPDE BC(K.J.2) = A(ILIM) * UBDUX(K.J.) BC(K.J.2) = A(ILIM) * UBDUX(K.J.) CONTINUE 30 CONTINUE 30 CONTINUE AIN LODP TO FOHM PIGHT SIDE UF ODES AT THE COLLOCATION PGINTS. GFUN CALL EVAL(I.NPDE.C.UVAL.A.ILEFT) CALL EVAL(I.NPDE.C.UVAL.A.ILEFT) CALL F(T.XC(I).UVAL(I).2).UVAL(I).3).UUOT(I).1).NPUE) GFUN GFUN CALL F(T.XC(I).UVAL.UVAL.A.ILEFT) GFUN GFU		2010	7
DO 20 J=1,NPDE BC(K,J,2) = BADU(K,J) - BC(K,J,2) BC(K,J,2) = DADU(K,J) - BC(K,J,2) BC(K,J,2) = DADU(K,J) - BC(K,J,2) BC(K,J,2) = BADU(K,J) - BC(K,J,2) BC(K,J,2) = BADU(K,J) - BC(K,J,2) BC(K,J,2) = BADU(K,J) - BC(K,J,2) GFUN A1N LODP TO FOHM RIGHT SIDE UF ODES AT THE COLLOCATION POINTS. GFUN CALL EVAL(I,NPDE.C,UVAL.A,ILEFT) CALL EVAL(I,NPDE.C,UVAL.A,ILEFT) GFUN GFUN GFUN UPDATE THE RIGHT BOUNDARY VALUES. SAVE THE RIGHT HOUNDARY CUNDITION GFUN GFUN CALL EVAL(K,DYS,NPDE.C,UVAL.A,ILEFT) GFUN GFUN	U.CANU. DEDUKIKAKI ELU. D.U I GU IO	N	י הי
BC(K.J.2) = B(ILIM) * UBOUX(K.J) BC(K.J.2) = DRDU(K.J) * BC(K.J.2) CONTINUE CONTINUE CONTINUE CONTINUE CONTINUE CALL EVAL(I.NPDE.C.UVAL.A.ILEFT) CALL EVAL(I.NPDE.C.UVAL.A.ILEFT) CALL EVAL(I.NPDE.C.UVAL.A.ILEFT) CALL FIGHT ROUNDARY VALUES. SAVE THE MIGHT HOUNDARY CONDITION GFUN	100 1 K 1 K 100 CC	2010	7 ;
BC(K+J-1) = DADU(K+J) - BC(K+J-2) BC(K-J-2) BC(K-J-2)	* 171 174	201	•
20 CONTINUE 30 CONTINUE 50 LO 122-1124 50 LO 122-1134 50 LO		2 4	•
30 CONTINUE 30 CONTINUE MAIN LOOP TO FOHM RIGHT SIDE OF ODES AT THE COLLOCATION POINTS. GFUN ILIM = NCPTS - 1 CALL EVAL(1.NPDE.C.UVAL.A.ILEFT) CALL EVAL(1.NPDE.C.UVAL.A.ILEFT) CALL EVAL(1.NPDE.C.UVAL.A.ILEFT) 40 CONTINUE GFUN GFUN	CONTINUE H CITACOLA CONTINUE H CANADA H	2010	•
MAIN LOOP TO FORM RIGHT SIDE OF ODES AT THE COLLOCATION POINTS. GEUN ILIM = NCPTS - 1 DO 40 1=2-1LiM CALL EVAL(1.NPDE.C.UVAL.A.ILEFT) CALL F(T.XC.(1).UVAL.UVAL.(1.3).UUOT(1.1).NPUE) GFUN GFUN GFUN GFUN UPDATE THE RIGHT HOUNDARY VALUES. SAVE THE RIGHT HOUNDARY CUNDITION GFUN G	9	2019	•
MAIN LOOP TO FOWN PIGHT SIDE UF ODES AT THE COLLOCATION POINTS. ILIM = NCPTS - 1 DO 40 1=2.11M CALL EVAL(1.NPDE.C.UVAL.A.ILEFT) CALL F(T.XC(I).UVAL(1.2).UVAL(1.3).UUDT(1.1).NPDE) GFUN GFUN 40 CONTINUE HODDATE THE RIGHT HOUNDARY VALUES. SAVE THE MIGHT HOUNDARY CONDITION GFUN		NI SE	•
ILIM = NCPTS - 1 ILIM = NCPTS - 1 O 40 122.1L1M CALL EVAL(1.NPDE.C.UVAL.A.1LEFT) CALL EVAL(1.NPDE.C.UVAL.A.1LEFT) 40 CONTINUE CONTINUE UPDATE THE RIGHT ROUNDARY VALUES, SAVE THE MIGHT HOUNDARY CUNDITION GFUN GFUN GFUN CALL EVAL(1.0.00 - 1.0.00 -		S C C	* *
ILIM = NCPTS - 1 DO 40 1=2.1LIM CALL EVAL(1.NDDE.C.UVAL.A.ILEFT) GAUN CALL EVAL(1.NDDE.C.UVAL.A.ILEFT) 40 CONTINUE CALL EVAL(NCPTS.NDDE*NDDE*NDDE LOCATIONS IN MC. GFUN	1	GF UN	•
CALL EVAL(1*NPDE*C*UVAL*A*ILEFT) CALL EVAL(1*NPDE*C*UVAL*A*ILEFT) CALL F(T*XC(I)*UVAL*UVAL(1,2)*UVAL(1)*3)*UUOT(1,1)*NPUE) GFUN GFUN 40 CONTINUE CONTINUE CONTINUE CALL F(T*XC(I)*UVAL*A*ILEFT) GFUN		GFUN	•
CALL F(T.XC(I).UVAL.UVAL(1.2).UVAL(11.3).UUOT(1.1).NPUE) 40 CONTINUE 40 CONTINUE 40 CONTINUE 40 CONTINUE 41 CONTINUE 42 CONTINUE 43 CONTINUE 44 CONTINUE 45 CONTINUE 45 CONTINUE 46 CONTINUE 47 CONTINUE 48 CONTINUE	DO 40 142011 3	GFUN	•
CALL F(T.XC(I).UVAL.UVAL(I.2).UVAL(I.3).UUDT(I.1).NPDE) 40 CONTINUE 6FUN UPDATE THE RIGHT ROUNDARY VALUES. SAVE THE RIGHT HOUNDARY CONDITION GFUN INFOHMATION IN THE LAST Z*NPDE*NPDE LOCATIONS IN MC. CALL EVALUES.NPDF.C.UVAL.A.ILEFT) GFUN GFUN	CALL EVAL (I-NPDE-C-UVAL-A-ILEFI)	GFUN	· un
40 CONTINUE GFUN UPDATE THE RIGHT GOUNDARY VALUES, SAVE THE MIGHT HOUNDARY CONDITION GFUN INFOHMATION IN THE LAST Z*NPDE*NPDE LOCATIONS IN MC. GRUN CALL EVALUETS.NPDF.C.UVAL.A.ILEFT) GFUN GFUN	CALL F (1-XC (1) + UVAL + UVAL (1-2) + UVAL (1-3) + UUOT (1-1) + WPDE)	GFUN	(F)
UPDATE THE RIGHT HOUNDARY VALUES. SAVE THE MIGHT HOUNDARY CONDITION GF UN INFOHMATION IN THE LAST 2*NPDE*NPDE LOCATIONS IN MC. GFUN CALL EVALUES. WHOSE CONTRACT GFUN GFUN CALL EVALUED GFUN GFUN GFUN	40 CONTINUE	GFUN	·n
UPDATE THE RIGHT HOUNDARY VALUES. SAVE THE MIGHT HOUNDARY CONDITION GFUN INFOHMATION IN THE LAST 2*MPDE*MRDE LOCATIONS IN MC. CALL EVALUED THE CAST 2*MPDF*C*.UVAL************************************		GFUN	J
INFOHMATION IN THE LAST 2*NPDE*NPDE LOCATIONS IN MC. CALL EVAL (NCPTS.NPDF.C.UVAL.A.1LEFT) GFUN GFUN	UPDATE THE RIGHT BOUNDARY VALUES. SAVE THE	OF UN	J.
CALL EVAL(NCPTS,NPDF,C.UVAL,A.1LEFT)	C INFOHMATION IN THE LAST 2*NPDE*NPDE LOCATIONS IN MC.	GF U№	чn
GF UN		. GFUN	s,
	CALL EVAL (NCPTS.NPDF.C.UVAL.A.1LEFT)		

SUHPOUTINE GFUN	16/16	OPT=1 ROUND=+-*/ TRACF	/ TRACE	FIN 4.6+452	41,474 14,46,15	14.46.15	T Ac
	CALL BNDRY(T	*KC (NCPTS) • UVAL	CALL ENDRY(T.XC(NCPTS).UVAL.UVAL(1.2).DHUU.BHUUX.UZDT.NPUF) ILIM # NCPTS # 3 * KOMD - KOMU - 1	WUA.UZBT.NPUF)	GF UN GF UN	0 0 0 0 0 0 0 0	
04	DO 60 KELWADE HCK*K+4) = 1 IF(DADUK*K) UDGT(K*NCPTS)	= 1. *K) .EG. G.G .	AND. UHEUX (K+K)	10 60 K=1.04FUE HC(KK+K+) = 16 0.0 .ANU. UHLUX(K+K) .EU. 0.0) 1:0 TO h0 IF(DROU(K+K) .EG. 0.0 .ANU. UHLUX(K+K) .EU. 0.0) 1:0 TO h0 UDOT(K+NCPTS) = DZDI(K)		m 4 10 4	
s,	00 50 J#1.NPDE BC(K.J.3) # A BC(K.J.4) # C 50 CONTINUE	O 50 J#1,MPDE BC(K+J+3) = AILLIM) + UBDUX(K+J) BC(K+J+4) = DHDU(K+J) - BC(K+J+3) ONTINUE)BDUX(K.J.) - BC(K.J.3)		67 CN 80 F0 80 F0 80 F0 80 F0	- 9 6 C	
10	60 CONTINUE RETURN END				55	2	

FIN 4.6+456
OPIEJ RUUND=+-+/ THACE
76/76
SUBROUTINE EVAL

PAUL

03/19/78 14.26.15

SUMMOUTINE F VAL (ICPT.NPDE.L.OVAL.A.ILEFT)	EVAL	
	- EVAL	
C CALLING ARGUMENTS AME DEFINED BELOW AND IN FUECUL.	EVAL	
ü	t val.	
C SUBPOUTINE EVAL EVALUATES U(K). UX(K). AND UXX(K). K=1 TO NFUL.	EVAL	
C AT THE COLLOCATION POINT WITH INDEX ICPT USING THE VALUES OF	EVAL	
C THE BASIS FUNCTION COEFFICIENTS IN C AND THE HASIS FUNCTION VALUES	FVAL	
C STORED IN A. THE RESULTS ARE STORED IN UVAL AS FULLOWS	EVAL	
C DVAL(K.1) = U(K). UVAL(K.2) = UX(K). AND UVAL(K.3) = UXX(K).	EVAL	_
· ·	EVAL	~
C PACKAGE ROUTINES CALLED NONE	EVAL	
C USER ROUTINES CALLED. NONE	EVAL	_
	EVAL	~
C FORTRAN FUNCTIONS USED NONE	EVAL	
	- EVAL	_
DIMENSION C(NPDE+1)+UVAL(NPDE+3)+A(1)+1LFFT(1)	EVAL	
COMMON /SIZES/ NINT, ROND, IUUM(5)	EVAL	-
IK = ILEFT(ICPT) - KOHO	EVAL	67
IC # 3*KORD*(ICP1-1)	EVAL	2
DO 10 Ms1+3	EVAL	~
ICC # IC + KORD+(m-1)	EVAL	22
DO 10 J=1.NPDE	EVAL	63
UVAL(J.M) = 0.	EVAL	N
00 10 I = 1 + KOPD	EVAL	52
UVAL(C+M) # UVAL(C+M) + C(C+I+IK)+A(I+ICC)	EVAL	~
10 CONTINUE	EVAL	~
RETURN	EVAL	~
END	EVAL	62

ARMY ARMAMENT RESEARCH AND DEVELOPMENT COMMAND ABERD--ETC F/G 21/2
A METHOD FOR COMPUTING THE FLAME SPEED OR A LAMINAR, PREMIXED, --ETC(U)
JAN 80 T P COFFEE, J M MEIMERL
ARBRL-TR-02212 SBIE -AD-E430 386 ML UNCLASSIFIED NL. 2 or 2 Kačeor END DATE

AD-A082 803

5-80 ptic

SUMPOUT 1	SUMPRIUTINE DIFFUN 76/76 OPT=1 HOUND=+-+/ THACE FIN 4.6+45? US	3/15/78	U3/19/78 14.26.15
pre	SUBHOUTINE LIFFUN (N. T. Y. YOUT. ILH. PH. IPIV. BOHN. IBOHN)	UIFFUN	N. M
	Casasasasasasasasasasasasasasasasasasas		•
	C CALLING ARGUMENTS ARE DEFINED DELOW AND IN COLUMN	DIFFUN	ŵ
1	Consequence Consists of Cart a alterative to (vet) by USF UF	UIFFUN	•
'n	C TATO ACCOUNTS CONTROL AND ACCOUNTS	UIFFUN	1
	C THE ROUTINES GROW BUDBY DECENT AND TOLIS	DIFFUN	30
	THE SAME SECTION OF THE SA	DIFFUN	•
	C TACKASE NOO! INCO CALLED . MONEY CO. C.	DIFFUN	97
	COSES ROUTINES CALLED CATE	CIFFUR	=
10	C CALLED ATTACKS OF THE CONTRACT OF THE CONTRA	UIFFUN	12
		. DIFFUN	F 7
	(1) 420年1 * (1) 450年 * (1) 450H	DIFFUN	*
	ROZY (WOZY (WOZY STORE)	DIFFUN	15
	COLETAIN ACTION TO SELECT TO SECURE	DIFFUN	9.
15	-4(21-6(23)-0(21)-((21)-0(31)-	UIFFUN	11
	CORECO / LO - BAI / Later And Andrews () - 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1	PIFFUN	18
	*(***) ********************************	DIFFUN	61
	CALL GFUX 100 TO THE TRANSPORT TO THE TOTAL TH	OIFFUN	02
	TOTAL	DIFFUN	77
50	ă	UIFFUN	22
	10 PE(1) H 0.	DIFFUN	23
	CACON AND PACE AND	NOILIO	54
	CAPL ADVANCE SOSTILIAN SECTION OF THE SECTION OF TH	DIFFUR	52
	CALL DECG (NO+ N+ ML) THE ITEM TO THE TOTAL	DIFFUN	92
52	THE THE CONTRACTOR AND ADDRESS OF THE PROPERTY AND THE PR	UIFFUN	27
	CALL SOLB (No. N. AL. NO. T. T. C. T.	DIFFUN	82
		DIFFUN	\$

PAGE

NM	4 U	, o r	6 0 <i>0</i>	`2:	15	ET	* !	6 T	11	16	5	3 7		23.	2	52	8	27	8	8	2	 	3 6	7 M	, w	9	37	36	39	•	7	~	7	: :	9
AUUA	AUUA	AUDA	ADDA	ADDA	ADOA	ADDA	ADDA	ADDA	ADDA	ADDA	ADDA	4 00 4	ADDA	ADOA	ADDA	ADDA	ADDA	ADDA	ADDA	ADDA	¥00¥	VOOV		4004	A D D A	ADDA	ADDA	ADDA	ADDA	AUDA	ADDA	AUUA	AUUA S		ADDA
SUPROUTINE AUDA(Ph.NO.A.ILEFT.bC.NPDE)	C CALLING ARGUMENTS ARE DEFINED BELOW AND IN PUECOL AND STIFILS.		C STORED IN THE FIRST COLUMN OF THE ARRAY.	C PACKAGE ROUTINES CALLED. NONE	CALLED BY	C FORTRAN FUNCTIONS USED NONE	Casessas as a second as a second of the second as a second second as a second s	COMMON /SIZES/ NINI-KORD-NCD-NCD-NCEN-ISLAD		C ADD THE BOUNDARY CONDITION PONTIONS OF THE A MATHIX TO PA (THE FINST	C AND LAST BLOCK ROWS).	100 A TIPETAL + TOTAL - ADDIT	ACS 1. 12. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	I + SOAN = NOSA = 1081	DO 10 J=1.NPDE	IND = ICOL + J = I	PM(1,1ND) H PM(1,1ND) + GC(1,0,1)	PE(I.IND+NPDE) # PE(I.IND+NPDE) + GC(I.J)	PE(1601*IND-NPDE) # PE(1601*IND=NPDE) + SC(1.0.4.3)	(4.0.1.)30 + (QNI.1801)84 = (QNI.1001)84	IC CON INCH	Cetterenstatestatestatestatestatestatestatesta	CONTRACTOR OF THE PROPERTY OF		TOTAL STATE	00 20 182 IND	11 = (I-1) + NPUE	I2 # (I+1) + KORD + 3	ICOL = 1LEFT(I) - I + IQUAD - 1	DO 20 J≈1+KORD	CI M (ICOL+J) * NPOE	7 + 67	0	1971 - 17977-17181 B 170977-17181 GGILLIG	END
		G		5	•			15)			00	ò				52				į	9				35	;				0				\$

SUMPOUTINE HE	HES 76/76	OPT#1 FUUND#+++/ TRACE	FIN 4.6.652	03/19/78	14.26.
	SUHRGUTINE KE	SUHRGUTINE RES(T.H.C.V.H.NPDE.NCPTS.4.ILRFT.HC.DRDU.DBDUX.U.ZOT	nC+UNFU+UNDUX+UZDT+	PES	~
	•	KC*UVAL)		HES	M
				,	4
	CALLING ARGUMENTS	CALLING ARGUMENTS ARE DEFINED BELOW AND IN POECOL.		E S	4
				3	
		A RESTANTANTANTANTANTANTANTANTANTANTANTANTANT	P. (C . T.)		, ~
		HODENT TIME CITE CIPE (10 A VE	A VECTOR A 15 A	3 4	٠
	THE PARTY OF THE P	MARTINE TO A STATE OF THE STATE		7 0	0 4
		THE TOURS OF THE PROPERTY OF T		7 4 4	•
	DACKAGE BOUTTMEN CALLED	21190		0 U	2 :
•	C USER BOUTINES CALLED	•		0 L	: ^
				3 3 3	
				2 4	? =
				S S S	• vs
,,	DIMENSION CO	DIMENSION C (NPDE, NCPTS) , R (NPDE, 1) . V (NPDE, 1)		HES	9
	DIMENSION AC	DIMENSION A(1), ILEFT(1), BL(NPDE, NPDE, 4), XC(1), UVAL(1)) •UVAL (1)	RES	11
	DIMENSION DEL	DIMENSION DECUINFOE.NPUE.) .UBDUX (NPUE.NPOE) .UZOT (NPUE.)	ZOT (NPDE)	RES	87
	COMMON /SIZES	COMMON /SIZES/ NIN1+KORD.NCC.IDUM(3).1GUAD		Æ.S	6.
					2
	C FORM G(C+1) AND STORE IN K.	TONE G(C+1) AND VIORE IN R.		MES BES	7,
		15311-1620-73-7420-819380-11040-75-9-9-12-9-13-9-13-9-14-0-7-14-0-7-14-0-7-14-0-7-14-0-7-14-0-7-14-0-7-14-0-7-	67.7		2 6
		からはからするものかからはなりからからなりからなりからない。 こうしょうじんとうとうしょう アン・アン・アン・アン・アン・アン・アン・アン・アン・アン・アン・アン・アン・ア	50 - 44C+ 074L + 14Cr)		3 3
	FOOR THE FIRST AN	COLD THE FIRST AND LAST BLOCK HORS OF THE RESTOLE VESTIGATION			
	TOUR AGE TOTAL	BEING ARE DEPENDENT ON THE MOUNDER CONSTITUTES.	יר ירניים	5 50	2,0
			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		2 2
	THE MINTER				9
	00 20 121 NPUF	, in the second		3 5	9 6
	SUM1 # 0.0			3	0
	SUM2 = 0.0			£ F 5	7
	DO 10 JE1.NPDE	NO E		KES	32
	SUM = SU	+ HC(I.J.1)	U+2) * V(J+2)	HES	33
	SUM2 = SUM2	+ HC(1.00.3)	* V(J. ILIM) + BC(I.J.A) * V(J.NCPTS)	RES	4
	10 CONTINUE			KES	35
		A(1.1) - SUM1		RES	36
		H # # P(I+NCPTS) - SUM2		RES	37
	20 CONTINUE			FES	38
					39
	C FORM THE REMAININ	C FORM THE REMAINING COMPONENTS OF THE RESIDUAL VECTOR.			? :
					7
	0.001 + 61			2 2 2	* ;
	17.17 = 31 17.18 = 10.31	100 a 100ff (100fc) a 8080		2 7	? \$
	2011 - 21 - 201 2011 - 21 - 201	Apple 101 101 101 101 101 101 101 101 101 10		יו ניי	, 4
				ב נו נו	6
_	100 A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			2 0	,
	CALLS & CALLS	SUM + A (12+0) + V (10+1COL+0)) (A)	•
	30 CONTINUE	,		S A	•
	æ	TS) = H#R(JJ.ICPTS) - SUM]		PES	00
_	40 CONTINUE			£ S	51
				HE S	2
	æ			FES	53
	END			RES	4

SUBROUTINE PSETIM (C. PW. NO. CON. MITEM. IEM. A. ILEFT. XC. UVAL. SAVE2.IPIV.CMAX.DFDUX.DFDUXX.DFDUXX.DFDUXX.DFDUXX.BC.NPDE)

PSETIB PSETIB PSETIB PSETIB PSETIB

PSET18 PSET18 PSET18

PSETIB IS CALLED BY STIFIB TO COMPUTE AND DEJOC ARE TREATED IN BAND PORM. A — M*EL(1)*(DG/DC)* WHERE A AND DG/DC ARE TREATED IN BAND FORM. DG/DC IS COMPUTED. EITHER WITH THE AID OF THE USER-SUPPLIED ROUTINE DERIVE IF WITHE USFFERENCING WITH THE AID OF THE PACKAGE-SUPPLIED ROUTINE DIFFF IF WITHER & P. FINALLY. PW IS SUBJECTED TO LU DECOMPOSITION IN PREPARATION FUP LATER SOLUTION OF LINEAR SYSTEMS WITH PW AS COEFFICIENT MATHIX.

2

PSETIB PSETIB PSETIB PSETIB

IN ADDITION TO VARIABLES DESCHIBED PREVIOUSLY. COMMUNICATION WITH PSETIB USES THE FOLLOWING... EPSJ. = SORT(UROUND). USEU IN THE NUMERICAL JACOBIAN INCREMENTS.

ML + MU + 1. # NO + 1. # NO*ML.

BEACK H

14.26.15

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i	

20

15

PACKAGE ROUTINES CALLED., ADUA,DECH.UIFF.EVAL.GFUN USER ROUTINES CALLED., BNDHY,DERIVF CALLED BY.,

25

FORTRAN FUNCTIONS USED.

101

ABS.FLOAT.MAXO.MINO.SGRT

PSETIB PSETIB PSETIB PSETIB PSETIB PSETIB PSETIB PSETIB

PSETIB PSETIB PSETIB PSETIB PSETIB PSETIB

DIMENSION PW(NO.1).C(1).CMAX(1)
DIMENSION A(1).ILEFT(1).BC(1).XC(1).VVAL(NPDE.3).SAVE2(1).IPIV(1)
DIMENSION DEDU(NPDE.NPDE).UFDUX(NPDE.NPDE).UFDUX(NPDE.NPDE)
DIMENSION DZDI(NPDE).DBDU(NPDE.NPDE).OBDUX(NPDE.NPDE)
COMMON /SIZES/ AINT.NCNPD.NCC.NPDE.NCFTS.NEUN.IQUAD
COMMON /GEARI/ T.W.DUMMY(3).UHOQUBO.NIDUMY(3)

30

DO 10 I=1.NOW

2

35

IF (MITER "EG. 1) 60 TO 25 CALL GFUN (T. C. SAVE? NPUE, NCPTS.A.BC.DBDU.DBDUX.UZUT.XC. PW(1.1) # 0.

9

RO = ABS(H) + SORT(D/FLOAT(NO)) +1.E+03+UFOUND D = D + SAVE2(1)++2 0 = 0. 00 20 1 = 1.N 20

CALL EVAL(I,NPDE,C,UVAL,A,ILEFT)
IF (MITER ,Eg, 1)
CALL DERIVF(T,XC(I),UVAL,UVAL(1,2),UVAL(1,3), COMPUTE BLOCK HOWS OF JACOBIAN. II = (I-1)*NPOE IZ = (I-1)*KORD*3 25 DO 30 I=1,NCPTS C COMPUTE

₽ S

55

OFDU.OFUUX.OFUUXX.NPDE) IF (MITEH .EQ. 2

PSETIB PSETIB PSETIB PSET18

PSETIB

CALL DIFFF(T,xC(I).I,uVAL,uVAL(I,2).uVAL(I,3).

DFDU-DFUUX,DFDUXX.NPUE.CMAX.SAVE2)

ILEFT(I) - I - IUUAD - 1

ICOL

SUBMOUTINE PSETIM	PSET	SETIN 76/76 OPT=1 HOUND=+-4/ THACF FIN 4.5+452	03/19/78	14.26.15
		KLOW & MAXO(1.01.2-NCPTS)	USET IN	3 0
90		DO 30 KBLK-KLOm,KHP	PSETIA	3 .
		U = (ICUE+KELK) +NFDE	PSETIB	? 9
		2007 + 101 B 102	PSE 118	50 1
		1034 + NO # 50	E1 - 100	.
9		2	025116	C 4
3		DO 30 K#1 NPDE	PSET18	6
		÷		90
	•	. UFDUXX (K.L) *A(J4)		69
	30	30 CONTINUE	PSE T 14	70
40		e de se se se se se se se se de se se de se	;	12
		COLCAT "ZE FEBU. THE TAND THE FEXUAL GEORGE OF THE ACCOUNTS FORD FINANCE CONTRACTOR OF THE FEXUAL CONTRACTOR OF THE FEXUA		2 :
		CORRENT INFORMATION FOR THE MICHIE BOUNDARY CONDITION IS ALREADT THE ARRAYS DRDUG DEDUX AS A KRSULT OF A PREVIOUS CALL TO GFUNG	N PSETTR	2 4
			PSET18	75
75	,	STOR H NEON - NPDE	PSETIB	16
		DO 50 K#1.NPUE	PSE 118	77
				92
		IFIDBDUIKIN) .Ed. 0.0 .AND. DRDUX(KIK) .Ed. 0.0) 60 TO	50 PSET18	2
		BI THO OF OO	PSETIB	9
0.9			PSETIB	7
	9		PSETIR	~ :
	20	SO CONTINUE	PSETIB	e 190
		CALL EVAL (1.NPDE.C.UVAL.A.ILEFT)	PSETIB	*
;		CALL BNDRY (1-xC(1) -UVAL-UVAL (1-2) -DEUU-DBUUX-DZU1-NPUE)	PSETIB	ر ا ا
c e		4		9 1
		IF (DBDU(K.K) .Ed. 0.0 .AND. DBDUX(K.K) .EW. 0.0) 60 10 70		6
			PSETIB	3 0
			PSETIB	6
	9		PSET18	0
96	2	70 CONTINUE	PSETIB	3
		DO 00 1 = 1 +NOW	PSETIB	26
	80	00 PE(I+1) H PE(I+1)+CON	PSETIB	63
	3		PSE T18	*
	CADD	C ADD MATRIX A(C+T) TO PW.	PSET16	98
95		•		9
		CALL ADDA (Ph. NO. A. ILEFT, HC. NPUE)	PSETIB	4
	j			9,
	00 0	C DO LU DECOMPOSITION ON PW.	PSETIB	66
	3		BI1354	100
00		CALL DECB (NO. N. ML. MU. PW. IPIV. IER)	PSETIA	101
		RETURN	PSETIR	102
			PSETIR	103

~	SUPHOUTINE UIFFF(T.X.1PT.U.UX.UXX.DFCU.DFDUX.DFUUXX.NPGF.CMAX.	01668	N M
ı	C CALLING ARGUMENTS AME DEFINED DELOW AND IN PDECOL.	01466	4 W
ń	C SUBROUTINE DIFFF IS USED IF MITER=2 TO PROVIDE FINITE DIFFLFENCE	DIFFE	e r
	C APPROXIMATIONS FUR THE PARTIAL DEMIVATIVES OF THE K-TH USEK DEFINED OF FUNCTION IN THE 5 POLITIME ATTH DECRECT TO THE VARIANCES OF THE VARIA	DIFFF	ao o
		DIFFE	0 7
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	C DFDUXX, RESPECTIVELY, AT COLLUCATION POINT NUMBER 1PT.	01666	2 -
	C PACKAGE POUTINES CALLED. NONE	DIFFF	: =
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<u>د</u>	C CALLED BY PSETIG	01666	91
	1	01566	
		UIFFF	6
	DFDUX(NPDE.NPDE), DFDUXA(NPDE.NPDE), CMAX(1), SAVE2(1)	DIFFF	20
2		01666	77
	30av + (15141) + 01	UIFFF	25
	POLYTON PROPERTY OF THE PROPER	1,166	5
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4		11566	3 4
n.		1111111	24
	T A STATE OF	DIFFF	28
	CALL F(T+x+C+Cxx+DFCC(1+c)+NPDF)	DIFFF	62
	DO 10 I=1.vPDE	DIFFF	90
20	10 DFDU(I+J) # (DFDU(I+J) - SAVE2(I+ID)) * RINV	DIFFF	31
	רון * (רין)	DIFFF	32
		01555	E .
	X + (7) X + (7	01555	*
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n	OF GOLDAND CONTRACTOR OF CAMPACIATION & GAMENO	01666) P
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	Ø + (7)××3 H (7)××3	DIFFF	•
0	CALL F(T.x.+U.ux.Uxx.DFDUAX(1).J).NPUE)	DIFFF	7
	DO 30 I=1.NPDE	DIFFF	45
	30 OFDUXX(I.J) # (DFDUXX(I.J) - SAVE2(I+ID)) + HINV	01666	m *
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1	40 CONTINUE	DIFFF	.
ď.	RETURN	01666	9 !
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SURPOUTINE INTERP	INTERV	76/76	0PT=1 PC	OPI=1 ROUND=+=+/ TRACE	TRACE	7	FTN 4.6+452	03/19/78 14.26.15	14.66.15
-	SUHRO	UTINE IN	SUHROUTINE INTERP (TOUT. Y. NO. YO)	r. r. no.	101			INTERP	~
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	U							INTERP	13
	C PACKAGE RUUTINES CALLED	PUUTINES	CALLED	NONE				INTERP	-
	C USEP HOUTINES CALLED	INES CAL	LE0	NONE				INTERP	51
15	C CALLED BY	:		PDECOL				INTEHP	91
	C FORTRAN FUNCTIONS USED	UNCTIONS	USED	NOINE				INTERP	11
	C						***********	INTERP	97
	DIMEN	SION YUL	DIMENSION YU (NO) . Y (NO . 1	2				INTERP	61
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50	00 10	DO 10 1 = 1.N						INTERP	21
	30 YD(Y0(1) = Y(1,1)	•10					INTERP	25
	اد اد	L = JSTART + 1	-					INTERP	23
	S	S = (TOUT - T)/H	1,1					INTERP	47
	S1 = 1.							INTERP	52
52	00 30	DO 30 J = 2.L						INTERP	92
	15	S# 15 # 15						INTERP	7.2
	00	Nº 1 = 1 02 00	z.					INTERP	82
	20	70(I) = Y	YO(I) = Y0(I) + S14Y(I+J)	*Y (1•1)				INTERP	62
	30 CONTINUE	INUE						INTERP	90
30	RETURN	z						INTERP	1 E
	END							INTERP	32

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9		EL (7)		COSET	16
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		EL (5)	= 0.4171H75f-00	COSET	113
		EL (6)	= 1.1135416666667E-Ui	CUSET	114
		EL (7)	= 0.01875£-00	COSE T	115

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COSET COSET	آ آ	(8) = 9,4344841269841E-03		COSET	149
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	.	H H		COSE 1	172

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SUBROUTINE COSET	COSET	1 76/76 APT#1 HOUNDELLE INFO.		COSET	173	
		EL(5) = 5.4744525547445E-UZ EL(6) = 3.6446350364464E-UJ		COSET COSET COSET	175	
)	016 005	175 \$60 DO 910 K = 1.3 910 TG(K) = PEHTST(NG.METH.K) 910 TG(K) = .5E=00*TG(2) / FLOATINU+2)		COSET	17H 179 180	
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	C THE OUTPUT AMGUMENTS ARE BY IPIV. IFR.	DECB	58
		DECH	62
	:	DECB	30
30	USER ROUTINES CALLED	DECH	31
		DECB	32
	CTIONS USED.	DECB	93
		DECB	34
	DIMENSION B(NDIM-1) - IPIV(N)	pece	35
35	1Et = 0	DECB	36
	IF (N .EG. 1) GO TO 92	DECH	37
	LL = ML + MU + 1	DECB	36
	~	DECH	39
	IF (ML .EG. 0) 60 TO 32	DECB	0 4
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	IF (MX .Eu. NR) 60 TO 60		DECB	63	
	00 50 I = 1+LL		DECH	*9	
	XX # H(NR.1)		DECB	65	
	B(NF,I) = B(MX.I)		DFCB	99	
ñ	0 B(MX+I) = XX		DECH	67	
9	O XII H (B (NR.))		DECH	99	
	IF (XM .E4. 0.) 60 TU 100		DECB	69	
	8(NR.1) = 1./XM		DECB	70	
	IF (ML .EQ. 0) GO TO 90		DECB	7.1	
	XX 8 LB(NH.1)		DECH	72	
	KK H MINO(N-NR+LL-1)		DECH	73	
	DO 80 1 = NP.LR		DECE	2	
	J = LL + 1 - NR		DECB	75	
	XX H B(I.1)+XM		DE CB	2	
	B(NR () H XX		DECH	7.7	
	DO 70 11 = 1.KK		DECE	78	
70	$0 B(I \bullet II) = B(I \bullet II \bullet I) \bullet XX \bullet B(N \bullet \bullet II \bullet I)$	(• B (N × • I I • I)	DECH	79	
đ			DECH	90	
õ	0 CONTINUE		UECH	7.9	
ð	92 NR = N		DECH	29	
	IF (R(N.1) .EQ. 0.) GO TO 100		DECB	83	
	B(N.1) = 1./5(N.1)		DECH	\$	
	PETURN		DECH	65	
100			DECH	90	
	RETURN		DECH	87	
	END		DECB	99	

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FET ROUNDS+-+/ TRACE	
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SUBROUTINE SOLB	*t SOLB 76/76 OPT=1 ROUND=+-*/ TRACF FTN 4.8++5/	U3/14/7H	14.26.15
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15	CALLED BY	SOLB	16
	FORTRAN FUNCTIONS USED MINU	SOLH	۲.
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	10 KK H MINO(NeML)	20C8	30
30		SOLR	33
;		SOLB	35
	30 CONTINUE	S0L8	33
	35 11 = 11 - 1	SOLB	34
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35	XX % O	SOLB	36
		SOLB	37
	£2 21	SOLB	38
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/STP.END/ /FCL.C./ /48.10./ OBNITYS CONIOS FCCNSKS FCCNSKS FCT TINS FCT TIN

ATH. 1.0000E+00

SYSAID= SYS=1ST XTOY+

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PRESSURE

8.8774E+00 3.0613E+00 7.0409E+00 9.8978E+00 7.5000E+00 6.1226E+00 2.0409E+00 6.8113E+00 9.3876E+00 1.46256-03 7.9205E.00 3.0613E.00 1.0204E.00 6.5818E.00 DENSITY

6.3522E+00 8.6478E+00 1.5000E+01

6,1226E.00 6,4183E.00 1,3980E.01

5.6124E.00 6.1887E.00 1.2959E.01

5.1022E+00 7.9591E+00 1.1939E+01

4.5920£+00 7.7296£+00 1.1428£+01

1.5000E+01 4.U018E+00 7.5000E+00 1.U918E+01

1.1939E+01 3.5715E+00 7.2704E+00 1.0408E+01

2.2960E.00 3.9542E.00 6.2948E.00 6.2948E.00 7.4425E.00 4.5406E.00 8.5406E.00 8.5406E.00 1.2194E.01 1.2194E.01

2.0409E+00 3.0256EE+00 5.10272E+00 6.2372E+00 7.9597E+00 7.9597E+00 6.5330E+00 9.3876E+00 1.0959E+01 1.1939E+01 1.4990E+01

1.7858E.00 9.5991E.00 6.1800E.00 6.3278E.00 7.3278E.00 7.4756E.00 9.2600E.00 1.0536E.01 1.1811E.01

1,5307£+00 3,5715£+00 6,18471£+00 6,18471£+00 7,270£+00 7,444,3£+00 6,4183£+00 9,1325£+00 1,0408£+01 1,3684£+01

1.2755E.00 3.4446E.00 4.4451E.00 6.6341E.00 7.4130E.00 7.4130E.00 8.3604E.00 1.0080E.00 1.31556E.00

1.0204£+00 3.3164E+00 6.5920E+00 6.5675E+00 7.1257E+00 8.3035E+00 8.40774E+00 1.0153E+01 1.428E+01

5.1022E-01 3.0613E+00 5.6136E+00 6.6670E+00 7.0409E+00 8.18847E+00 8.7626E+00 9.7626E+00 1.11736E+00

2.5511E.00 5.3521E.00 6.3522E.00 7.5000E.00 7.5000E.00 8.6478E.00 1.249EE.01 1.249EE.01

2.8511E-01 2.8062E+00 5.8062E+00 6.8089E+00 6.9035E+00 8.1313E+00 9.1313E+00 9.1046E+01 1.1046E+01 1.2704E+01

7.6533E-01
3.16889EE-00
5.7660EE-00
6.5240EE-00
7.6983EE-00
6.2461E-00
6.2461E-00
1.30125E-01
1.3214E-01

TOTAL STEPS 3.000nE-06 H 5 3.0000E-07

H.3400E-01 7 IME S

TEMP/1000

H

INITIAL 6.0840E+00

3.0110c-01 3.0370c-01 3.3355c-01 5.877c-01 8.4016-01 1.1578c-00 1.2038c-00 1.21876c-00 1.21876c-00 1.21876c-00	5.9213E-13 4.2753E-11 4.5785E-04 4.4660E-07 7.4930E-03 3.1068E-03 3.3120E-03 2.9209E-03 2.9255E-03	3.3327E-01 3.3264E-01 3.2934E-01 3.1370E-01 2.8255E-01 1.8378E-02 2.8646E-03 3.5642E-05 3.5642E-05	6.6673E-01 6.673E-01 6.673E-01 6.8630E-01 7.174E-01 8.6545E-01 9.6565E-01 4.4565E-01 4.4734E-01 4.4734E-01
3.0001c-01 3.0605c-01 3.2693c-01 4.1146c-01 6.3137c-01 1.1637c-00 1.2066c-00 1.2176c-00	7.1030E-13 5.7490E-11 5.6165E-09 3.517E-07 2.8827E-06 2.8876E-03 3.3536E-03 3.3536E-03 2.640E-03 2.640E-03	3.329E-01 3.3274E-01 3.1300E-01 2.8139E-01 1.9945E-01 1.4380E-02 3.9105E-02 3.2105E-02	6.6671E-01 6.6705E-01 6.7005E-01 7.1260E-01 8.0028E-01 9.9459E-01 9.9459E-01 9.9701E-01
3.095ac-01 3.05/46-01 3.249bc-01 4.03d7c-01 7.049bc-01 7.049bc-01 1.1259c-00 1.2169c-00 1.2169c-00	7.93e9E*13 3.6524E*11 3.6524E*11 2.7887E*07 1.81096E*06 1.8472E*03 3.6721E*03 2.6916E*03 2.6691E*03	3.3330E-01 3.3288E-01 3.3288E-01 2.41692E-01 2.4136E-01 4.6854E-02 7.1701E-03 3.5545E-03 3.2647E-05	0.0070E-01 0.6946E-01 0.8308E-01 7.0828E-01 7.4616E-01 4.434F-01 4.453E-01 4.453E-01 4.453E-01
3,704]E-0] 3,045E-0] 3,2153E-0] 3,2153E-0] 4,940E-0] 4,940E-0] 1,3463E-0 1,103E-0 1,203]E-0 1,216E-0 1,216E-0 1,216E-0	1.2616E-12 2.3715E-11 2.2309E-09 2.3309E-09 1.2105E-06 2.3553E-03 3.6174E-03 3.0280E-03 2.6981E-03	3.3331E.01 3.3295E.01 3.3102E.01 2.9559E.01 2.9559E.01 2.2637E.01 5.9831E.02 3.7011E.05 3.7011E.05 2.7943E.05	8.6694E-01 6.64898E-01 6.8498E-01 7.0440E-01 7.7331E-01 7.3318-01 7.4649E-01 7.4378E-01 4.4649E-01 4.4649E-01
3.0004 - 01 3.000 Te-01 3.100 te-01 3.629 3 E-01 4.00 3 Te-01 1.077 te-00 1.20 3 Te-00 1.20 3 Te-00 1.21 10 E-00 1.21 10 E-00 1.21 10 E-00	2.6290E-12 1.4403E-12 1.4420E-09 1.3426E-07 2.0346E-03 3.00346E-03 3.0034E-03 3.0034E-03 2.7276E-03	3.332k-01 3.330k-01 3.301k-01 3.2096-01 2.3752k-01 7.4854k-02 4.716k-03 3.7502k-05 3.7502k-05 2.334k-05	6.0668E-01 6.009E-01 6.740E-01 7.009E-01 7.0230E-01 7.231E-01 9.231E-01 9.4531E-01 4.477E-01 4.453E-01
3.01196-01 3.03696-01 3.16056-01 4.1636-01 6.09576-01 1.04638-00 1.20386.00 1.21066.00 1.21066.00	5.4092E-12 9.4550E-12 9.4341E-10 8.0927E-06 1.6973E-03 1.6973E-03 3.5778E-03 3.10378E-03 2.7583E-03	3.333E-01 3.3306E-01 3.4315E-01 3.6215E-01 2.4756E-01 9.1776E-02 9.4629t-03 3.4756E-05 3.4756E-05	6.0667t-01 6.0694t-01 6.06428t-01 6.7685t-01 7.5234t-01 7.5234t-01 9.0653t-01 9.0652t-01 9.4614t-01 9.464t-01
3.0412E-01 3.031HE-01 3.13H5E-01 3.6110E-01 4.553E-01 1.010HE-00 1.2029E-00 1.209HE-00 1.2151E-00	H.R288E-12 5.0495E-12 5.1347E-10 1.25315E-00 1.3638E-03 3.531E-03 3.531E-03 2.7495E-03 2.3902E-03	3.333E-01 3.331E-01 3.3312E-01 3.249E-01 4.563E-01 1.1016E-01 4.503E-03 4.5048E-03 3.445E-05	6.6657E-01 6.6689E-01 6.66801E-01 6.4504E-01 7.436.2E-01 4.4687E-01 4.4682E-01 4.4682E-01 4.4682E-01
3.00066-01 3.02746-01 3.11966-01 3.52564-01 4.48356-01 6.15266-01 1.18316-00 1.20246-00 1.20246-00	1.8752E-11 4.1235E-12 3.6054E-10 9.5078E-05 2.678E-03 3.4714E-03 3.5696E-03 2.676E-03 2.676E-03	3,333E-01 3,3315E-01 3,325E-01 3,2535E-01 3,6412E-01 1,2923E-01 1,1516E-02 3,4847E-05	6.668E-01 6.668E-01 6.6779E-01 6.736E-01 7.358E-01 7.358E-01 9.450E-01 9.457E-01 9.478E-01
3,00024-01 3,02024-01 3,02024-01 3,5224-01 4,34022-01 5,91506-01 1,17682-00 1,20184-00 1,21982-00	4.5652E-11 2.294E-12 2.2926E-10 2.1336E-10 7.3317E-07 1.6562E-05 3.3817E-05 3.5859E-03 3.5859E-03 2.2536E-03	3.333E-01 3.332E-01 3.3236E-01 3.2755E-01 3.7101E-01 1.54826-01 4.1776-05 3.4886-05	6.6657E-01 6.6679E-01 6.6761E-01 6.7245E-01 7.2892E-01 9.8114E-01 9.9749E-01
3.0000E-01 3.0149E-01 3.0149E-01 3.3493E-01 4.2446E-01 6.8940E-01 1.2011E-00 1.2011E-00 1.2137E-00 1.2137E-00	1.0000E-10 1.0000E-10 1.0000E-10 1.0000E-10 5.7177E-07 5.5900E-00 3.5000E-00 2.8000E-00 2.8000E-00	3.3336 - 01 3.3326 - 01 3.3256 - 01 3.2556 - 01 3.26536 - 01 2.7712 - 01 1.66676 - 01 1.66676 - 02 3.52806 - 05 3.52806 - 05 3.52806 - 05	6.6667E-01 6.6576E-01 6.6745E-01 6.7147E-01 7.28816E-01 7.28377E-01 4.7604E-01 4.4534E-01 4.4534E-01

INTEGRALS * 3.0813E-02 2.0422E-04 ..3.1017E-02 DIFF TERMS * 5.8317E-07 -2.3712E-06 1.78H0E-06 FLAME SPEED * 6.3628E+01 6.3302E+01 6.3625E+01

FLAME FRONT FROM PHI* = 6.0839E+00 TO PHI* = 7.9205E+50

FLAME FRONT FROM X # 2.17076-02 TO X # 3.6405E-U?

FLAME THICKNESS = 1.4698E-02 CM

T # 6.0000E-01 DT # 8.475HE-01 TOTAL STEPS # 25

RUN TIME # 3.7250E+00

INTEGRALS = 3.0814E-02 2.0459E-04 -3.1018E-02

DIFF TERMS = 2.1225E-06 -2.3712E-0b 2.4844E-07

FLAME SPEED = 6.3632E+01 6.3415E+01 6.3631E+01

FLAME SPEED = 7.9205E+00

FLAME FRONT FROM X # 2.17076-02 TO X # 3.64046-02

FLAME THICKNESS # 1.4697E-02 CM

MO = -9,3061E-02 FLSP = -6,3631E+01

ORIGIN SPEED = -9.3060E-01

CHANGE = 3.0913E-05

T = 3.0000E+00 DT = 8.4758E-01 TOTAL STEPS =

27

RUN TIME = 3.8410E+00

INTEGRALS = 3.0814E-02 2.045BE-04 -3.1018E-02 DIFF TERMS = 2.1224E-06 -2.3711E-06 2.4874E-07

FLAME SPEED & 6.3632E+01 6.3413E+01 6.3631E+01 FLAME FRONT FROM PHIN & 6.0H40E+00 TU PHIN = 7.4205E+00

FLAME FHONT FROM X = 2.17076-02 TO X = 3.6405E-02

FLAME THICKNESS H 1.469AE-117 CM

M0 = -9.3063E-02 FLSP = -6.3032E+01

ORIGIN SPEED # -5.3065E-01 CHANGE # -4.906UE-05

T # 9.0000E+00 OT # 2.3639E+00 TOTAL STEPS # 30

RUN TIME = 4,3830E+00

INTEGRALS = 3.0814E-02 2.0458E-04 -3.1018E+02

DIFF TERMS = 2.1237E-06 -2.3712E-06 2.4742E-07

FLAME SPEED = 6.3632E+01 6.3411E+01 6.3631E+01

FLAME FRONT FROM PHI* = 6.0841E+00 TO PHI* = 7.9206E+00

FLAME FRONT FROM X & Z.1707E-02 TO X & 3.6405E-02

FLAME THICKNESS = 1.4698E-02 CM

MO = -9.3061E-02 FLSP = -6.3630E+01

ORIGIN SPEED = -9,3058E-01 CHANGE = 6,655ZE-05

T # 1,5000E+01 DT # 5.5397E-01 TOTAL STEPS #

7

RUN TIME = 6,3060E+00

INTEGRALS = 3,0814t-02 2,0458E-04 -3,1018E-02

DIFF TERMS = 2.1239E-06 -2.3712E-06 2.4725E-07

FLAME SPEED = 6.3632E+01 6.3411E+01 6.3631E+01

FLAMF FRONT FROM PHIS & 6.0440E+00 TO PHIS # 7.9205E+50

FLAME FRONT FROM X = 2.1707E-02 TO X = 3.6405E-02

FLAME THICKNESS = 1.4698E-02 CM

M0 = -9,3062E-02 FLSP = -6,3431E+01

ORIGIN SPEED = -9.3063E-01 CMANGE = -4.83UYE-05

T = 2.1000E.01 DT = 3.1632E.00 TOTAL STEPS = 46

RUN TIME # 6.4140E+00

INTEGRALS = 3.08146-02 2.0458E-04 -3.1018E-02

DIFF TERMS = 2.1239E-06 -2.3712E-06 2.4724E-07

FLAME SPEED = 6.3632E+01 6.3411E+01 6.3631E+01 FLAME FRONT FROM PHIF = 6.0840E+00 TO PHIF = 7.9205E+00

FLAME FRONT FROM X = 2.17076-02 TO X = 3.6405E-02

FLAME THICKNESS # 1.4698E-02 CM

MO = -9.3061E-02 FLSP = -6.3630E+01

ORIGIN SPEED # -9,3060E-01 CHANGE = 3,2170E-05

T = 2,7000E+01 DT = 3,1632k+00 TOTAL STEPS =

30 4

RUN TIME # 6.9980E+00

2001/07

161	TEMP/1000								
	3.0003E-01	3.0007E-01	3.00126-01	3.0019E-01	3.00296-01	3.0041E-01	3.0058E-01	3.0080E-01	3.0110E-01
	3.02035-01		3.03186-01	3.03698-01	3.04286-01	3.049bt-01	3.0574E-01	3.0665E-01	3.07706-01
	3.10336-01		3.136SE-01	3.1605E-01	3.1858E-01	3.2153t-01	3.2490E-01	3.28946-01	3,33565-01
	3.4522E-01		3.6111E-01	3.7113E-01	3.02946-01	3.9684E-01	**0387E-01	4.1146E-01	4.196*t-01
4.2848E-01	4.3803E-01	-	4.5953E-01	4.7165E-01	4.8478E-01	4.9903E-Ul	5.1453t-01	5.31396-01	5.49736-01
	5.9154E-01	_	6.41316-01	6.6961t-01	7.0035E-01	7.3364E-01	7.0962E-01	8.0795t-01	8.480dL-01
8.8945E-01	9.3123E-01		1.0109E+00	1.0464E+00	1.0774E+U0	1.1039E+00	1.12596+00	1.1437E+00	1.15776+00
_	1.1768E+00	1,1831E+00	1.16795+00	1.19156+00	1.19436+00	1.1963E+00	1.19805.00	1.19936.00	1.20036+00
	1.2018E+00	_	1.2029€+04	1.2034E+00	1.2043E+0U	1.2052E+00	1.20546+00	1.2066E+0U	1.20736.00
1.2079€+00	1.2086E+00	~	1.2096E+00	1.2104E+00	1.2110E+00	1.21154.00	1.21216+00	1.2126E+00	1.2131E + 00
	1.2142E+00		1.21515+00	1.2156E+00	1.216UE+30	1.2165E+00	1.2169E+00	1.217*E+00	1.2182£+00
	1.21986+00	_	1.22126+00	1.4219E+00	1.2225E . 00	1,22311+00	1.2236E+00	1.22416+00	1.22442.00
0									
1.00005-10	4.56536-11	1-47535-11	8-8288E-12	5.40891-12	2.6287t-12	1.20184-12	7.9369E-13	7.1029E-13	5.92146-13
7-4223F=13	1.72996-12	4.1244F-12	6.0896E-12	9.35456-12	1.4405E-11	2.3726t-11	3.65352-11	5.7493t-11	9.2762E-11
1.40505-10	• "	3-6061F-10	5.79585-10	9.2349E-10	1.4200E-09	2.2414E-09	3.5467E-09	5.61716-09	8.5807E-09
1 - 3342F = 08		3.3919F-0R	5.1394E-0H	8 - 0956t - 0H	1.3430E-07	2.2311E-07	2.7890E-07	3.512bE-07	4.4677E-07
5 720AF = 0.7			1.2515E-06	1.66261-00	2.2080E-06	2.5427E-06	4.1203E-06	5.75456-00	7. 4457E-00
1.1263F=01	1-66031-05		3.5650E-05	5.2931E-05	K.01226-05	1.2104E-04	1.8097E-04	2.6838E-04	3.4188E-0*
40-35004-3			1.3645£-03	1.09801-03	2.0351t-03	2.3558L-03	2.54755-03	2.8980E-03	3.10056-03
3.26006-03	3, 3819t-03		3,5352E-03	3.5774E-03	3.50391-03	3.6174E-03	3.6221E-03	3.6198E-03	3.61205-03
3-60026-03	3.58598-03		3.55166-03	3.2327t-03	3.40HEt -03	3.4437L-03	3.19HZE-03	3.353ct-03	3.3092£-03
3.2662E-03	3.22416-03		3.142HE-03	3.1636E-03	3.06536-03	3.0CHUL-03	2.4915E-03	2.9558L-03	2.4210E-03

2.53306-03 2.53306-03 2.18036-03	2.8537£-03 2.4829£-03	2.4353£-03	2.7893E-03 2.3902E-03	2.15822-03 2.34776-03	2.3084E-03	2.6441E-03 2.2724E-03	2,664UE=03 2,2463E=03	2.04062-03	2.5855E-03 2.1926£-03
03									
1. 3235-61	IN- BEFEE	וא שנבנר נ	I A Set ee t	3. 44326.00	19234556	to alter t	2 22201-01	Tangore .	14-37066 6
3.33246-01	3.3320E-01	3-33156-01	3.3311E-01	3.33075-01	3.33016-01	3.32956-01	3.32885-01	3-32795-01	3-3266E-01
3.32555-01	3,3239E-01	3, 32215-01	3.31996-01	3.31726-01	3.3140E-01	3.3102t-01	3.3056£-01	3.3000E-01	3.2934E-01
3,28535-01	3.27556-01	3.26356-01	3.24916-01	3.4315E-01	3.20986-01	3.18316-01	3.1692E-01	3.15396-01	3.13706-01
3.11835-01	3.0977E-01	3.07496-01	3.0496E-01	3.02166-01	2.9905E-01	2.9558E-01	2.9171E-01	2.8738E-01	2.82556-01
2.7711E-01	2.7100E-01	2.64101-01	2,56335-01	2.4754E-01	2.3760E-01	2.263bE-01	2.13665-01	1.99446-01	1.8375E-01
10-36926-01	10-9/2001	1.2920t-01	1.1012E-01	9-1/32F-0¢	7.4821E-02	5.981ct-02	4.6440E-02	3.6063E-02	Z.7455t-02
20420400	70-14/46-7	1,1510E-02	6-3061E-03	0.50145-03	4.0153E-03	50-24-04-5	Z-1620C-2	1.683675.03	1.3563E-03
4.3666	A. 11745.05	10111111111111111111111111111111111111	4 . CUCIE-U4	3.00000 C	10101616	2 40116 OF	1.10/9[+03	3.6384E-03	4.86835-05
3.5281E-05	3.4886E-05	3.4500F=05	3.41246-05	3 - 4745 - 05	24.20.25.2	3.20425-05	3.26975-03	50-36916-1	3 3000C = 03
3.1077E-05 2.6766E-05	3.04786-05	2.9906E-05	2.9361E-05	2.08466-05	2.8365E-05	2.74236-05	2.75226-05	2.71796-05	2,69185-05
05									
6.66675-01		4.44475-01	4.46475-01	6.0668F =01	A. ACARGAO	[0-30447.4	10-305-01	4.44716-01	4 44735-03
4.44746-01		4.448EE-01	10-30-00-0	3 6	101100044	4 47056-01	4 47126-01		47235-01
6.6745E=01	6.6761E-01	6.6779F=03	A.6801F-01	. 6828t	0-404404 0-404404	A.68981-01	A. 6466-01		6.7046F=01
6.7147E-01	6.72455-01	6.7365E-01	6.75095-01		6.7902E-01	0.81696-03	0.8308E-01		6.8h30E-01
6.8817E-01	6.9023E-01	6.9251E-01	6.95036-01	6.9784E-01	7.00956-01	7.0442E-01	7.08295-01		7.1745E-01
7.2287E-01	7.2899E-01	7.3587E-01	7,4363E-01	7.5240E-01	7.6232E-01	7.7351E-01	7.8616E-01		8.1585E-01
8.32796-01	A.5095E-01	8.6975E-01	A. H852E-01	9.0657E-01	9.2314E-01	9.37836-01	9.5051E-01		9.69446-01
9.7605E-01	9.8114E-01	9.850ZE-01	9.8796E-01	9.9016E-01	9.9178E-01	9.9298t-01	9.9384E-01		9.9503E-01
9.95396-01	9,9567E=01	9.9587E-01	V.9603E-01	9.96145-01	4.9633E-01	9.9645E=01	9.96535-01		9.9664E-01
0.07646-01	0.07116-01	9-90/05-01	9.900 E-01	9-41216-01	9-47505-01	10-34666.6	9.97305-01		0 07385-01
9.9744E-01 9.9779E-01	9.9744E-0	9.9753E-01	9.97585-01	9.47626-01	9.9766E-01	9.97706-03	9.97735-01	9.97765-01	9.97786-01
INTEGRALS =	3.08146-02	2.0457E-04	-3.1018E-02						
OIFF TERMS	= 2.12396-06	-2.3732E-0	6 2.4728E-0						
FI AME SPEFU	# 6.3632Fe01	01 6.34116.01	01 6.36316+0	-					
	•		•						
×	IN CH								
•		1.7445E-03	2.6169E-03	3.4895E-03	4.3624E-03	5.2356£-03	6.1091E-03		
8.73426-03	9.6114E-03	1.0491E-02	1.0931E-02	1-13726-02	1.1614E-02	1.2257E-02	1.2701E-02		
1.87016-02	1.91995-02	1.9707E-02	2.0228E-02	2.0761E-02	2-1312E-02	2-1681E-02	1.7254E-02	2.2413F-02	1.821cE-0c
2.2966E-02	2.3252E-02	2.3544E-02	₹ 3844E-02	2-4152k-02	2.4468E-02	2.4794t-02	2.5131E-02		
2.6211E-02	2.6600E-02	2,70046-02	4.7426E-02	2.7868t-02	2.8331E-02	2.6818E-02	2.4330E-02		
3.10436-02	3.1678E-02	3.2347£-02	3.3048E-02	3.3761E-02	3.45426-02	3.53294-02	3.61372-02		
3.8655E-02	3.9516E-02	4.0383E-02	*.1255E-02	4.2132E-02	4.3011E-02	4.38932-02	4.4776E-02		
4.7432E=02		4.4606E-02	70-36-00-0	3.0363E=02	7 27745-02	3.4935E=0£	3.6913E=02		0.08 CCE-02
0.28345-02 8.27146-02		B. 66946-02	- 25 O O O O O O O O O O O O O O O O O O	0.16461-02	7.24.7F=02	50 - 10 1C - 05	1.61.48E-UC		0.0.COL-02
1.06656-01			1.18656-01	1.c266t-01	1.26665-01	1.30676-01	1.34685-01	1.3669E-01	1.4271E-01
1.46726-01								ı	•

FLAME FRONT FRUM PMI* = 6.0839E+00 TO PMI* = 7.5204E+00

FLAME FHONT FROM X # 2.17076-02 TO X # 3.64046-02

FLAME THICKNESS # 1.469RE-62 CM

the state of the state of

M0 = -9.3063E-02 FLSP = -6.3632E+01

OHIGIN SPEED = -9.3067E-01 CHANGE = -7.2119E-05

T = 3.0000E+01 DT = 1.425ME+00 TOTAL STEPS =

20

RUN TIME = 7.5690E+00

TEMP/1000

3,0110E-01 3,0770E-01 3,355E-01 4,1964E-01 5,4972E-01 1,5034E-00 1,2034E-00 1,2131E-00 1,2131E-00	5.9213E-13 9.2753E-13 8.5798E-04 7.9493E-00 7.9493E-00 3.1005E-03 3.6120E-03 3.6120E-03 2.5959E-03 2.1926E-03	3.3276-01 3.32666-01 3.29366-01 3.13706-01 1.63706-01 2.7*306-01 2.7*306-02 3.5666-03 3.56666-03
3.0080E-01 3.066SE-01 3.2894E-01 4.1145E-01 5.3134E-01 1.1437E-00 1.2066E-00 1.2126E-00 1.2126E-00	7.10294-13 5.4886-11 5.61656-09 3.51226-09 2.46336-09 3.51286-09 2.40796-03 3.5176-03 2.67666-03	3.33296=01 3.32796=01 3.30006=01 3.15396=01 2.9796=01 3.60686=01 3.60686=02 3.61056=03 3.61056=03 3.61056=03
3.0556-01 3.05745-01 3.2495-01 4.03475-01 7.6966-01 1.12596-00 1.21216-00 1.21696-00	7.9371E-13 3.6531E-11 3.5464E-09 2.7867E-07 4.1197E-06 1.6094E-03 3.6221E-03 3.6221E-03 3.6221E-03 2.9912E-03 2.9912E-03	3.33885-01 3.32885-01 3.3056c-01 3.10926-01 2.13676-01 2.13676-01 4.6846c-02 2.5029c-03 3.5557c-05
3.0041k-01 3.0490k-01 3.2153k-01 3.9684k-01 4.3392k-01 1.1039k+00 1.2054k+00 1.2155k+00 1.2155k+00 1.2155k+00	1,2018E-12 2,3724E-11 2,27212E-07 2,2712E-07 2,942E-06 1,3102E-06 3,6174E-03 3,6437E-03 2,04941E-03 2,04941E-03	3.3331E-01 3.3349E-01 3.3102E-01 2.9538E-01 2.9631E-01 5.4918E-02 3.4079E-02 3.4077E-04
3.0029E-01 3.0428E-01 3.1498E-01 3.8243E-01 4.04377E-01 1.0774E-00 1.21043E-00 1.2106E-00 1.2166E-00	2.646886-12 1.446886-11 1.42646-01 1.34686-07 2.03506-03 3.44886-03 3.44886-03 3.4486-03 2.7276-03 2.72786-03	3.33326 3.33306 3.31406 3.21406 5.37416 7.37416 1.7416 1.77616 1.77616 1.77616 1.77616 1.77616 1.77616 1.77616 1.77616 1.77616 1.77616
3.001%2-01 3.036%2-01 3.16%3-01 6.6%16%2-01 1.0%6-01 1.0%6-01 1.0%16-01 1.2%16-00 1.2%16-00 1.2%16-00 1.2%16-00 1.2%16-00 1.2%16-00	5,40906-12 9,45366-12 9,45366-12 8,09476-10 1,66236-06 1,697206-05 1,697206-03 3,0376-03 3,036-03 2,1036-03 2,7566-03	3.3342E 3.33942E 3.4376E 3.4375E 3.4375E 6.1746E 6.174
3.0012E-01 3.0318E-01 3.1385E-01 3.6111E-01 4.51953E-01 1.0109E-00 1.2029E-00 1.2029E-00 1.2151E-00	8,9290E-12 6,0490E-12 6,0490E-12 5,1344E-08 1,2514E-05 1,3643E-05 1,3551E-03 2,5351E-03 2,1493E-03 2,1493E-03	3.333333333333333333333333333333333333
3.00076-01 3.02746-01 3.11966-01 4.52566-01 4.18356-01 9.72116-01 1.20246.00 1.20246.00	1.4753E-13 3.6057E-12 3.3057E-10 3.3015E-08 9.5073E-07 2.457E-03 3.4710E-03 3.5696E-03 3.5696E-03 2.821E-03	3.333E-01 3.3315E-01 3.322E-01 3.2235E-01 3.2635E-01 1.2920E-01 1.1512E-02 5.5559E-01 3.4500E-01
3.0003E-01 3.0203E-01 3.1033E-01 3.452E-01 5.9153E-01 9.3121E-01 1.2018E-00 1.2162E-00	4.56536-11 1.729316-12 2.29316-10 2.13486-10 1.30306-07 1.86506-05 3.39196-03 3.58596-03 2.85316-03 2.85316-03	3.3330E-01 3.3320E-01 3.3320E-01 3.3250E-01 3.0755E-01 1.5576E-01 1.5570E-01 1.5570E-01 4.1174E-05 3.0474E-05
3.0000E-01 3.0149E-01 3.0892E-01 3.3893E-01 5.6848E-01 1.2011E-00 1.2011E-00 1.2137E-00 1.2190E-00	1.4219E-13 1.4849E-13 1.3361E-10 1.3361E-10 5.197E-07 1.1361E-05 5.5999E-03 3.2662E-03 3.2662E-03 2.8969E-03 2.8969E-03	9.3336 9.3326 9.3326 9.3256 10.3256 10.275 10.666 10.6776 10.6

2.6766E-05

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6.6667E-01	6.6667E-01						6.6670£-01	6.6671L-01	6.6673E-01
6-6676E-01	D. 5580E-01						5.6712t-01	6.6721E-01	6.67326-01
6.6745E-01	6.6760E-01						6.5944E-01	6.7000E-01	6.7066E-01
6.7147E-01	6.7245E-01						6.6308E-01	6.8461E-01	6.8630E-01
6.8317E-01	6.9023E-01						7.0828t-01	7.1261E-01	7.17446-01
7.22872-01	7.2898E-01						7.8615E-01	8.0028L-01	8.1585E-01
8.32785-01	8.5094E-01						4.5051E-01	9.6103E-01	9.6944E-01
9.7605E-01	9.81146-01			9.9016t-01	9.9178E-01		9.9387E-01	9.94546-01	9.9503E-01
9.95396-01	9.9567E-01						9.96535-01	9.9659t-01	9.9664E-01
9.96696-01	9.96736-01						9.9697E-01	9.9701E-01	9,9704E-01
9.97086-01	9.9711E-01						9.9730E-01	9.97336-01	9.9738E-01
9.97446-01	9.97496-01	9.97536-01	9.9758E-01			9.97706-01	9.9773E-01	9.97766-01	9,9778E-01
9.97796-01									

INTEGRALS # 3.0814E-02 2.0458E-04 -3.1018E-02

DIFF TERMS = 2.1239E-06 -2.3712E-06 2.4726E-07

FLAME SPEED = 6.3632E+01 6.3411E+01 6.3631E+01

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•									
						5.2356k-03	6.1091E-03	6.98335-03	7.8582E-03
8.7342E-03						1,2257E-02	1.2701E-02	1.3146E-02	1.3592E-02
1.4041E-02						1.6783E-02	1.7254E-02	1.17295-02	1.8212E-02
1.8701E-02						2.1881£-02	2.2144E-02	2.2413E-02	2.2686E-02
2.2966E-02						2.4794E-02	2,5131E-02	2.5478E-02	2.5838E-02
2.6211E-02			2.74265-02			2.88176-02	2.9330E-02	2.9870E-02	3.0441E-02
3.1043E-02						3.53286-02	3.0130E-02	3.6962E-02	3.76035-02
3.86555-02						4.3892E-02	4.4775E-02	4.5660E-02	4.65456-02
4.7432E-02						5.4935E-02	5.69136-02	5.4892E-02	6.0872E-02
6.2853E-02						7.4761E-02	7.6748E-02	7.8737E-02	8.0726E-02
8.2716E-02	8.4707E-02	8.6698E-02		9.0683£-02	9.2677E-02	9.4671E-02	9.6666E-02	9.8662E-02	1.0266E-01
1.06655-01			1.1865E-01	1.2266E-01		1.3067E-01	1.3468E-01	1.3869E-01	1.4271E-01
1.46726-01									

FLAME FRONT FROM PHIS & 6.0840E+00 TO PHIS # 7.9205E+00

FLAME FRONT FROM X = 2.1707E-02 TO X = 3.6405E-02

FLAME THICKNESS = 1.4698E-02 CM

MD = -9.3062E-02 FLSP = -6.3631E+01

6.0840E+00 7.9205E+00 7.5000E+00 -9.3067E-01

COLLOCATION POINTS

2.1564E-01 3.0000E-01 1.0000E-10 3.33342-01 2.1564E-01 3.0002E-01 5.2007E-11 3.33342-01 1.2301E-00 3.0027E-01 7.6559E-01 3.33342-01 1.2301E-00 3.0027E-01 7.6559E-11 3.33342-01 2.2565E-00 3.0105E-01 6.0720E-13 3.33272-01

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TEMMYV0 0001576

PHINTED

LINES

	PPOGRAM LOADE	IF T6/76 OPT=1 POUND=+=+/ TRACE	TRACE	FIN 4.5.45P	05/16/79	10.48.55	PAGE
_		DROGRAM : DAGE : TABLE : TABLE = TABLE : TABLE	SETNORIT TABE	(F 34AT - THETHE	2	۰	
	C	TOTAL CREATES THE SURPOUTINE IN PROCEEDINGS	PDFCOL-FLCT.		Z Z Z	L PT	
		DIMENSION II (72)			2142	•	
		DIMENSION LA (25) . M (25) , AU (6.25)	.AL (6.23)		NAIN	r	
ď		DIMENSION ALD (25) . PLD (25) . ABD (25, 25) . PHC (25, 25)	5.25) .Phr (25.2	(5	MAIN	£	
		DIMENSION LAPR(25)			7 T V	^	
	:	PEAD (5.12) N. INF			ZIV	az e	
	~.	FORMAT([G[4]			2 :	•	
-		NITRE IS THE NUMBER OF COMPENS LINES TO HE DO DO NOT ALL THE		HEAD AND PPINIED.	Z	D :	
2		DO 20 TH 07 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		
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		WATTE (6-24) II			Z	2 4	
	20	CONTINUE			MATA	15	
15	25	FORMAT (72A1)			ZI W		
	\$ 2	FORMAT (/1X+7/41/) DEFAU (F. 12) NOD . NOD C			2 2	- 1	
		TO NO KEY SOUTH			2 2	£ 0	
		PEAD (5, 32) L9 (K) . W.K.)			ZIE	50	
90		BRITE(6,34)K.LB(K).B(K)			MAIN	: 7	
		READ(5.36) (AU(L.K).L=1.6)			ZIV	25	
	•	READ(5,36)(AL(L+K)+L=1,6)			Z	23	
	9 6	CONTINUE CON			2 2	6.	
26	,	FORMAT (ASSOCIATION)			2 2	C 4	
3	, 4 6	FORMAT (1P3E16.8)			Z	27	
		READ (5.12) NL INF			NIV	. es	
		DO 40 KEISNLINE			ZIVE	52	
		READ(5,22)11			ZIV	30	
30		WRITE (6,24) II			2142		
	•	## [TE (3+22)]]			2 1	25	
	• •				ZIV	n en	
		ENTHALPIES AND HEAT CAPACITIES.			ZIV	35	
35					NIV	36	
		WR TE (3.42)			ZIZI	37	
	•	MRITE(6.42)	10000		# 1 # 1	00 G	
		DO NO NO NOT SELECT TO SEL				f 6	
•		WRITE (3.52) K.AL (1.K) . AL (2.K)			NIV	3 7	
		#RITE (6.52) K. AL (1.K) . AL (2.K)			ZIVI	2	
		HPITE (3-54) (AL (L.K) -L=3-5)			MAIN	€+	
		#RETE (6-54) (AL (L+K)+L=3+5)			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4 4	
4		## FF (3000) Ke# (00K) 04 19K)			2 3	: :	
n		またました。「なっちな」にも近し、ひゃた)・4月(カッド)			ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ		
		WRITE (6.64) AL (2.K) . AL (3.K)			ZIVI	T.	
		WRITE (3,66) AL (4,K) . AL (5,K)			NAIN	64	
į	;	BRITE (6.66) AT (4.5) AT (5.5)			Z	205	
Ş	5 6	CONTINUE Formaticalistications of a contraction of the contraction of	FIG. P. SHOTOLO.	DF16.81	7 2 4 4 1 3		
	. .	CONTRACTOR OF THE CONTRACTOR (CITAL CONTRACTOR CONTRACT	. 81,5H)))))		?	. E	
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		WP17E (305R)			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	75	
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6.0		WELTE (3. L.C.) K. A.U. (1. K.) . AU. (2. K.)	2	7
		EDITE (BOSON FORD (10 K) OF DOCUMENT	Z	62
		BOITE (3-55-6) (Alice of) al Habit)	Z	, m
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06	90	COO THE COO TH	ZIV	6
	8	FON: AT (1P8E14.6)	MAN	92
	ď	FORMは「プラス・14・4×・4・4×・102年14・6/)	MAIN	63
		DO OO KEI NODC	NIVA	46
		#RITE(3,92)k.aLD(K).hBLD(K)	MAIN	و
95		WRITE(6.92) K+ALD(K) - HLD(K)	MAIN	ý
	90	CONTINUE	NAIN	46
	6	FORMAT(6X.2HDL.12.1HH.1PF14.6.5HR(T**.1PF14.6.1H))	NAIN	8 8
		PFAD (5.12) NLINF	MAIN	ů 7
		DO 100 K=1.vLINE	MAIN	001
100		READ(5.22)II	ZIVI	101
		WRITE (3,22) II	2 I 4 I	102
		WRITF (6,24) II	Z Z Z	103
	100	CONTINUE	Z A I Z	104
		Z##NDC-1	N N	105
105		DO 110 I#1. ₩	Z A Z	106
		IbaI + I	ZIV	101
		DO 110 J=IP+NSPC	ZIV	90
		READ (5.42) APD (1.40) ************************************	2 ~ 2	507
		WRITE(6.112)1.J.LH(1).LH(1).AFD(1.J).HHF(1.J)	ZIV	110
110	110	CONTINUE	₹ 4	
	112	FORMAT (/2x.14.4x.14.4x.4x.4x.4x.4x.107f.14.6/)	Z 4 5 5 5 5 5 5 5 5 5	7
		PFAD(5.114) PHESS	2	113
	114	FORMAT (FK.0)	2 4 4	9

-

FTN 4.5+452

05/16/79

76/76

PROGPAM LOADE

WRITE (3.162) K.K WRITE (6.162) K.K WRITE (3.164) K.K

OPT=1 ROUND=+-4/ TRACE

172

185

190

179

RDU=3H-PU

195

WARANING (NSPC.8)

200

205

125

210

NP BNER+1

512

TO 185 CONTINUE 90 194

PDU*3H+0U

220

FORMAT 6x,1HU,12,3H=U(,12,1H)} FORMAT(6x,2HhU,12,5H=UPH(,12,1H)) FORMAT(6x,3HhDU,12,6H=UPH2(,12,1H)) NEDR MINO (NSPC.B) LB11=2H-U

162

180

WRITE (4.164) K.K WRITE (3.166) K.K WRITE (6.166) K.K CONTINUE

175

WRITE (1) ((EBU-K) - KR2-NWP)
WRITE (6.172) ((LBU-K) - KR2-NWF)
WRITE (6.172) ((LBU-K) - KR2-NWF)
IF (WK - GE-MSPC) GO TO 179
NPRNRR-1

NWER MING (NEDC.NWER.E)
WRITE(3.1R2) ((LBU.K).K=NP.NWR)
WRITE(6.182) ((LGU.K).K=NP.NWR)
OD 177
CONTINUE

ORMAT (5X+14+1X+R(A2+12))

MRITE(3,174) ((LRDU,K) KE2*NWA)
WRITE(6,174) ((LRDU,K) KE2*NWA)
FORMAT(65*SHEU 1**8(A3*12))
IF(NWR,GE.NSPE) GO TO 183
NPENNR*]

171

NWERRING (NSPC.NWR.R)
WRITE (3.184) ((LEDU.K).KENP.NWH)
WRITE (6.184) ((LEDU.K).KENP.NWH)
GO TO 181
CONTINUE
FORMAT (5x.144.1 X.8 (A3.12)) 183

NARHAINO (NSPC.8)
NARHAINO (NSPC.8)
NARTIE (3.176) ((LBDDU.K).KEZ.NWR)
FORMAT (6.4.6.HDDU.K).KEZ.NWR)
IF (NWR.6F.KEHDDU.K).KEZ.NWR)
IF (NWR.6F.KEY.E) 176

NUBERTO (NSPC.NUB.8) URITE(3.146) ((LEDDU.K).KENP.NUR) URITE(6.186) ((LDDDU.K).KENP.NUR)

FORMAT (SX.1H*.1X.8 (A4.12)) WARRENING (NSPC.4)

#RITE (3.2)2) ([LADU.K., (K)) .KEI.NWR)
#RITE (6.2)2) ([LADU.K., (K)) .KEI.NBH)
FORMAT(KX.6MOYSK.4(A3.[2.]M/.F6.2))
IF (NBR.GE.NSPC) GO TO 230 212

225

NEGE MIND (NSDC+NEK++)

	PROGRAM LOANE	NF 74,74 OPT=1 ROUND=+++/ TRACF FIN 4.6+45;	A 1/u1/cn	10.64.15	PA 6t.	4829461
230	222	WRITE (3.922) ([LHDII.** • (K.) *KEND • NHF) WRITE (6.222) ([LHDII.** • (K.) *KEND • NHF) FODMATIK* 174 • 1 × • 4 × 1 × 1 × 1 × 1 × 1 × 1 × 1 × 1 × 1 ×	2 2 2 4 4 4 4 4 4 7 2 2	230 231 55		
	230	60 TO 220 CONTINUE	ZZ	233 234 234		
235		LADDURATED CASECAL	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	235		
!		MRITE (3.214) ((LRODII-K-4(K))-KEI-NWR)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	237		
	214	FORMAT (6X.SHDDVSH.4 (A4.I2.1H/.F6.2))	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	239		
040	512	If (NVR.GE.NXPC) GO TO 225 NORMED 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	240		
2		「 ・	2 7 4 7	242		
		HPITE (3.224) ((LODDII.K.4(K)).KENP.NEP)	2 4 1	243		
		3	2142	244		
245	225	CONTINUE	7 2 4 4 1 4	245		
	224	¥:1	MAIN	247		
		READ (5.232) TPN.PIN.TEN	NIA	248		
	232		Z 2	0 4 0 0 4 0		
250		TEL SIGN TO CONTRACT OF THE SI	2 2	25.1		
,		BRITF(6.234) TPN.PHN. THN	MAIN	252		
	234	FORMATILHC.2X.SHTPN #. IPEIZ. 4.6X.SHPHN #. IPEIZ. 4.6X.	NIV	253		
		+ OFFIRM Hellower	N I I	254		
255		24 C27		25.5		
! !	922	FORMAT(6X-10HDT=UPH(1) +.1PE12.4)	MATA	257		
		EDITE (3.242)PSB	MAIN	258		
	242	##1.ce (0.74%) FUX FODEAT (4.4.6HDVX) = 10F14.10.9114(01/140%) / (144%)	Z Z	259		
260	7	DO 2550 KEI-NSPC	Z Z Z	261		
		ABALD(K) *BLD(K)	MAIN	292		
		##8(D(K)-1.0	ZIV	263		
		TOTAL TO CONTRACT OF THE PROPERTY OF THE PROPE	ZZZ	264		
265	25.0	CONTINUE	Z Z Z	266		
) !	252	FORMAT(6x,2HDL,12,1H=,1PE,14,6,3H+DT,6H+(T++(,1PF)4,6,2H)))	MAIN	267		
		DO 260 KM1.NSPC	ZIVE	268		
		##11# (3+262) # + # + # + # + # + # + # + # + # + #	Z Z	240		•
270	260	CONTINUE	Z	271		
	242	FORMAT (6X+2HDX+12+3HBDU+12+2H/(+F6.2+4H+YS),2H-Y+12+	NIM	272		
		# 12HeDYS/(YS+YS))	2 2 2	273		
		10.7.00 Table 10	7 7	275		
275		00 270 JaIP+NSPC	214	276		
		「フ・コンロスはも(フ・コンロエサイ	NI V	277		
			Z 2	270		
		は、そのつうこののなった。このでは、このでは、このでは、このでは、このでは、このでは、このでは、このでは、	2	290		
280	270	CONTINUE	ZIVI	241		
	268	FORMATICK.2HDD.12.17.1HB.1PF14.6.5HP(T**,1PE14.6.4H)*D.1	ZIVA	282		
	. E	TERRES CONDUCTIVITY OF THE WIXTORF.	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	250		
			MAIN	285		
285		(ペトペース) しゅうしょ (ペトペース) しょうしょ しゅうしょ しゅうしょ しゅうしょ しゅうしゅう しゅう	ZIV	286		

	PPOGRAM LOARF	IF 76/76 OPTEL ROUNDE+-+/ THACF FTN 4.6+452	05/16/79	10.44.55
		WPITE(6.272) WRITE(3.274)	Z I Z Z	265
	27.2	#RITE(6.274) RODEATCHE.28.34.11ED24 - CHARICTIVITY OF THE MIXTURE A	Z	0 × 0
290	274	METHOD. P. 456 PET	Z Z	291
		,	MAIN	262
		X+ ICHXE	214	593
			ZIV	504
900		1004574 J007 ((TX-X- LX -X-)-XHI-NBX)	Z	242
C	686	FRICHEST CONTROL TO THE CONTROL OF T	2 7 4 4 3	6.00
	662	TOURSE OF COUNTY OF THE COUNTY	2 2	200
	;	- CE2240Z	Z	562
		LEGET NO CONDU-LEGET	ZIV	300
300		WRITE(3,292)((LRX,K,LHRL,K),K=NP,NWK)	MAIN	301
		WRITE(6.292)((LRX.K.LBRL.K).K=NP.NWH)	MAIN	302
	į	60 T0 290	ZIVI	303
	300	CONTINUE	Z	304
	262	FORMAT(SX+1M++1X+R(A3+1Z))	Z	305
202			2 2	0 0
		70-112 (20-100) (20-1	2 Z	4 C
		TELLE (4.704) ((10x, x, 10x, x), 10x, x)	MAN	300
	284	FORMAT (KX STRL MV # 06 (A3 . I.2.)	Z	310
310	295	IF (NWR. GF. NSPC) GO TO 305	NIV	311
		T+CEVIL	NAT	315
		NEGRETING (NODC - NEG + +)	MAT	313
		WRITE(3.294)((LBX.K.LAKL.K),KHNP.NKK)	ZIV	314
;		BEITHR(60-204) ((LEX-X-LERI-X)-XHNP-NBR)	ZIZ	315
616	300		2 2	0 7 6
	505 406	COS - INO.	2 2	110
			2 4	915
			7 7	320
320	302	FORMAT(6X*13HRLWVH).0/RLWV)	Z A	321
		EDITE (30.304)	ZIV	322
		EPITE (6,304)	ZZZZ	323
	\$	FORMAT(6X+18HRLM=0.5+(RLM+RLMV))	MAIN	324
		,	ZV	325
325		DEPIVATIVE OF THE THERMAL CONDUCTIVITY OF THE MIXTURE.	ZIV	326
	· ·		Z	327
			2 2	200
	312	FORMATIMO-2X-45HSPACE DEMINATIVE OF THE THERMAL CONDUCTIVITY.)		330
330		LPRL=3H+RL		331
		LBDX=3H+DX	Z	332
		LBDL=3#+PL	Z	333
			2 2	900
135		MONTH (N. 1907) ((O.	N	336
}		BRITE(6-322) ((LBRL-K-LHDA-K-LHDL-K-1 HX-K)-KH1-NHH)	ZIV	337
	322	FORMAT(KX+5HDRLM=+12(43+12))	ZIVI	338
	325	IF (NEP. GF. NSPC) 60 TO 330	ZIV	339
		ZD#Z#D+1	7 A H	340
340		NEDHETING (NOTO-NED+2)	Z 4 1	19.
			2 2	347
			:	5 6 7

FORMAT(5x, 1 w = 1 x 12 (A3, 12) FORMAT(5x, 1 w = 1 x 12 (A3, 12) FORMAT(5x, 1 w = 1 x 12 (A3, 12) FORMAT(5x, 1 w = 1 x 12 (A3, 12) FORMAT(1 x x x x x x x x x
TF/75 00 TF/75 00

	PROGRAM LOADE	76/76 OPT#1 ROUND#+=#/ THACE FTN 4.5+657	07/16/79	10.44.55	4500
00+	450	IF CAMP. FO. IM) FO TO 470	Z	# 0 P	
	- -	77	Z Z	ر بر 4 د	
		BRITH (Betho) (CHAC. C.) (C.) (C.) (FAD. C. L. C.)	Z	904	
		##ITE (6.452) ((LBU.J.LAS. ()) , LHD. J. I.LBP) , JENP. NWP)	Z A N	404	
405	455	FORMAT (SX.140.1X.4 (A2.12.A2.FK.2.A2.212.A1))	MAIN	90+	
	4.4	50 TO 450	Z	104	
			2 2	t 0	
	0#4	IF (NER, EQ, NSPC) 60 10 400	ZZ	1 014	
410		ZPBZEK+1	NAN	+11	
		NETHEN (NODC - NETH - D)	NIV	412	
		BENITH (Website) ((LEC-C-LETS-K (C) * (LEC-LET) * (LES-LETS) * (LES-L	2 I	(13	
	_	FX."FR(O+4%V) ((TTO+O+TX)+F(O)+TXO+I+O+TXP)+O#NF+NFF)	2 2 4 4 3 3	4 4	
415	604		Z Z Z	5 4	
:	_	CONTINUE	NIV	+14	
	-	00 510 K#2,NSPC	ZIVE	418	
		WPITE (3.512) X. K. K.	2141	4 19	
404		WWITE (6-512)KoKoK	Z	+ 20	
	215	このではない。 ではない これに、 では、 なない まなまも(ここ。 こん。 ひまもというご。 こん。 ひまものという こここここと しょうしょ しょうしょ しょうしょ こうしょうしょ しょうしょう こうしょう こうしょう しょうしょう しょうしょ しょうしょう しょう	2 2	- C	
		#PITE(3+514)	ZIVA	423	
		WRITE(6.514)	NAN	454	
•	514	FORMAT (AX+17HCALL DECOMP (NPDE))	ZIV	425	
\$23	-		Z :	929	
	516	TATE OF CONTROL NO VECTOR SECTOR	ZZ	- 604	
	:	マラマルのよう こうしょう はいしょう はいしょく はい	Z	450	
	JOS J	SOLVE FOR THE SPACE DERIVATIVE OF UV.	Z	4 30	
430			ZIV	431	
		#211E(3.522)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	432	
	CEN	WELLEROOTSKY	2 7 4 4 E 3	E 7 4	
		TOTAL TANGENCY OF THE TOTAL TO	Z Z	434	
435	_	WRITF (6.532)	Z	436	
	532	FORMAT (6x.8H#(1) #0.0)	MPIN	437	
		DO 400 T#20kSPC	Z	438	
		まましてでしょうものとしています。またには、これをしていません。	Z Z) (4 d	
440	545	FOREAT (6X-24E(-12-91) BRH-(100)-12-51-48-1-12-101-00VS) /PHN1	MAN	;	
		#PITF (3.544) [.]	NAM	244	
			Z	F. 4	
	***	アロアエボー (でメー) エモー) メージエーコスエー (コン・) フ・リエ・ソーコ・) ア・チエキニアン・/ アエン・/ アフン・/ フ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	Z ;	* *	
445	~ *	35 750 CB1.437C	Z Z Z	4 4 0 4	
		(7°I)OZIZEZIZI	ZIVN	F44	
		INDXERBANCIO.	7 4	# # B	
		X42II-2ZIZIOO DOOMONOONOONOONOONOONOONOONOONOONOONOONOO	2 2 4 4 2 3	O • •	
0 3 7	•	SELLT (OOSJUN) TO	2 2	90.4	
•	-	TATE OF SUPPLY OF SUPPLY SUPPL	2 Z Z	4.72	
	552	FORMAT (6X+2H+ (+12+4H) 4H(+12+1H) +5H+ (+DU+12+4H+UV(+12+5H)+UV(+	NIV	453	
	•	◆ I2•4H) Ф∩U•I2•3H)/(•F4•2•2HФD•2I2•1H))	A T	454	
	1 455	FORFATCRX.114.1X.3H.(II.12.4H.4(IV(.17.5H)-IV(.12.3H)-U.12.	2 I A	45.5	
415		• +#) +DD •212 •217 (*** 0 • 214 - 212 • 24 + () • () 2 - 14)	Z	400	
	9009	CONTINUE	2 4 1	, ני	

### COMPATION CONTINUES. ### COMPATION CONT		PPOGRAM LNADF	DF 74/76 OPT#1 ROUND#+=#/ TRACF FTN 4.5+452	02/16/79	10.68.55 P	PAGE	4829465
C			WRITE (3.602)	7 4	4 A.A.		
C FIND THE TIPE DEPLAYES, D FINE 13-22 SHOWN THE TIME DEPLAYITYES,) MATERIALS,			#317F (6.402)	ZIV	459		
C FIND THE TIPE OFFITATIVES. 6.12 FORMAT THE OFFITATIVES. 6.12 FORMAT THE OFFITATIVES. 6.14 FORMAT THE OFFITATIVES. 6.15 FORMAT THE OFFITATIVES. 6.15 FORMAT THE OFFITATIVES. 6.16 FORMAT THE OFFITATIVES. 6.17 FORMAT THE OFFITATIVES. 6.18 FORMAT THE OFFITATIVES. 6.19 FORMAT THE OFFITATIVES. 6.10 F		602	HCALL	ZIV	604		
C FIND THE TIPE DESTRETUES. 12 PORATICEASIS 13 PORATICEASIS 14 PORATICEASIS 15 PORATICEASIS 16 PORATICEASIS 17 PORATICE	094		****	Z	104		
## 17 (10 10 10 10 10 10 10 10			¢	ZEVS	694		
######################################							
######################################				200	70		
######################################			(21915)	2 4	***		
012 9004 7 (140.72) 4004 100 THE THE DERIVATIVES.) HAIN ###################################				7 4 X	+65		
### ### ##############################	165	219	X,264FIND THE TIME	2141	466		
## ## ## ## ## ## ## ## ## ## ## ## ##				ZAZ	467		
### ##################################			WRITE (6.622)	Z	468		
### ##################################		623	0.024-024	2	204		
WILE (0.3.22 MSPAZETHAN, CHAMPENN) WILE (0.3.22 MSPAZETHAN, CHAMPENN) WILE (0.3.22 MSPAZETHAN, CHAMPENN) WILE (0.3.22 MSPAZETHAN, CHAMPEN) WILE (0.3.22 MSPAZETHAN, CHAMPER (0.1.1.0.PH(1).0.CMPR_CM.PMPCR_M)) WILE (0.3.22 MSPAZETHAN, CHAMPEND (0.1.1.0.PH(1).0.CMPR_CM.PMPCR_M)) WILE (0.3.22 MSPAZETHAN, CHAMPEND (0.1.1.0.PH(1).0.CMPR_CM.PMPCR_M) WASHINGTON (0.1.1.0.PH(1).0.CMPCR_CM.PMPCR_M) WASHINGTON (0.1.1.0.PH(1).0.CMPCR_CM.PMPCR_M) WASHINGTON (0.1.1.0.PHC) WASHINGTON		226		2 4	70		
### ##################################			これの日本文化 「これの日本文化 「これの日本の日本文化 「これの日本文化 「これの日本文化 「これの日本文化 「これの日本文化 「これの日本文化 「これの日本文化 「これの日本の日本文化 「これの日本の日本文化 「これの日本の日本文化 「これの日本の日本の日本の日本の日本文化 「これの日本の	2.41	0.4		
### ### ##############################	470		BOTTE (3.4.3.) TRODIO	27.43	•7.		
6.32 FORMATION 19 (1) + (ORM-PD L & PRIND L W))	•		ではなられている。 マー・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・				
6.55 FORM (16 x 3 + 17 + 17 + 17 + 17 + 17 + 17 + 17 +			2545H 725940 3 1 1 2 B	2 4 4	2/4		
*** **********************************		632	FORMAT (6x+3HTL*+1PE16*10+	ZIVI	P43		
645 [BPP (K = 1) 10 0.46 × K = 1,25 12 0.70 × K = 1,25 13 0.70 × K = 1,25 14 0.70 × K = 1,25 15 0.70 × K = 1,25 16 0.70 × K = 1,25 17 0.70 × K = 1,25 18 0.70			* 4014 (RIFERIATION (1) + 1011 (1) + (CRIFERIATION 1))	2142	*7*		
645 [BPP(KKPL) 1977-128 1977-129				2	14.		
645 10 (45) 413 123 141 141 141 141 141 141 141 141 141 14				MARK	n (
645 [BPRKKIE] 1847 1487 1487 1487 1488 1488 1488 1488	0		DO SED MEION	2	9.4		
I		645		RIVA	+11		
THE TOTAL THE				NIV	478		
LOWER THE TOTAL				74	140		
LGRWENTH FOR CACHENING MRTE 13.442) THSTP-LRR *K-LUH, K 642 FORMET 166.44778-11P18.10.2H+(-A3.12.A3.12) MRTE 13.442) THSTP-LRR *K-LUH, K 650 FORMET 166.44778-11P18.20.2H+(-A3.12.A3.12) MRTE 16.462) (LLRR *K-LUH, K MRTE 16.462) (LLRU *K-LUH, K MRTE 16.462) (LRU *K MRTE 16.462) (LRU *K-LUH, K MRTE 16.462) (LRU *K MRTE 16.462) (LRU *K MRTE 16.462) (LRU *K MRTE 16.462) (MRTE 16.462) (MR			-	2742	A		
RAIN				2	084		
## ## ## ## ## ## ## ## ## ## ## ## ##	480		Lateux:	MAIN	483		
## ## ## ## ## ## ## ## ## ## ## ## ##				7.44	£82		
## ## ## ## ## ## ## ## ## ## ## ## ##					4 5 7		
## WATE FEGGES			とった日づらとっと日づらん一のと「ハウトゥの」に「大き」	2	504		
642 FORMAT(6K*AHTR=-1PE18-10*Zh*(*A3*1Z*A3*1Z) MAIN 650 IF(KWR*EQ*NSPC160 TO 660 NPANNEN; OTO 550 CONTINUE CONT			#RITE (6.642) TWSTP.LAR.K.LDH.K	ZIVZ	+8+		
650 [F(MERRED-NSPC:060 TO 660 MAIN NUMBRURE) MAIN NUMBRURE) MAIN NUMBRURE) MAIN NUMBRURE) MAIN NUMBRURE) MAIN NUMBRURE) MAIN NUMBRURE (3.6.52) ((LRB-K.(RH-K-LRPR(K)).KENP.NUR) MAIN NUMBRURE (3.6.52) ((LRB-K.LRH-K-LRPR(K)).KENP.NUR) MAIN NUMBRURE (3.6.52) ((LRB-K.LRH-K-K-LRH-K-LRH-K-K-RH-K-LRH-K-K-RH-K-K-RH-K-LRH-K-K-RH-K-LRH-K-K-RH-K-RH-K		249	FOREST (6x+411481-1PE18-10+21+(-43-12-43-12)	ZIVI	4.05		
NPENBROOK NOTE NO	485	650	IF (NER. FD. NSPC) 60 TO 660	2141	486		
MARTE (3.652) (LBR.K.LBPR(K)), KENP.NUR) WPTE (3.652) (LBR.K.LBPR(K)), KENP.NUR) WPTE (3.652) (LBR.K.LBPR(K)), KENP.NUR) WPTE (3.652) (LBR.K.LBPR(K)), KENP.NUR) 660 CONTINUE 662 CONTINUE LBUVEMH-UV (LRCBH) oc LRCBH) oc LRCBH) oc LRCBH (A.64-10-10-10-10-10-10-10-10-10-10-10-10-10-				25 43	101		
######################################			2377	2			
## 18 (2 6 6 5 2) ((LBM & K - LBM & K K T) & K = MP & N M M M M M M M M M M M M M M M M M M				2 1 4 2	900		
## TTE (6.652) ((LAM.KLBM.KLBM.K.), KRNY-NWH) ## IN ## I				2 1	\$ D#		
660 TO 650 660 CONTINUE 652 POPMET SX-2 HP-1X-3 (A3-12-A3-12-A1)) MATH MERT MET				2141	074		
660 CONTINUE 652 POPMAT(5x+2He-1X+3(A3-12+A1)) MAIN MAIN MARCH MERCA MARCH MAR	190		G0 T0 650	THE	16*		
652 FOPPAT(5X*2H*01X*3(A3*12*A1)) WHER! WHER! LBUVEAH+UV(LRC=3H)**C WAIN LBUVEAH+UV(LRC=3H)**C WAIN WAIN WAIN WAIN WAIN WAIN WAIN WAIN WENTE (3*62) TMSPH*LBUV**CLBC**K FORMAT(6X*4HTD=*1PE18*10*12H*UPH(1)*PH*(*A*,12*A3*12*) MAIN MAIN WAIN WAIN WAIN GO TO 670 CONTINUE FORMAT(5X*2H*0*K*LBC**K*LBPP(K))**K*NP) WAIN W		949	CONTINUE	2143	492		
NWRE	6 9 9						
MAIN TWEFFIELD TWEFFIE TWE		700	47.6763.1	214	744		
TWSPH=TWK/PHN [BCE3H)-0' [RCE3H)-0' [RCE3H]-0' [RCE3H)-0' [RCE3H]-0' [RC					767		
LRUVEAH-UV(LRCE3H)-C LRCE3H)-C LRCE3H)-C KEI			I	ZZZZ	495		
PC=3H) = C	495		1 BUV#4H+UV (224	484		
## ## ## ## ## ## ## ## ## ## ## ## ##			30 - 17 H 30 - 1	MIN	497		
### ##################################							
## ## ## ## ## ## ## ## ## ## ## ## ##				2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D (
### ##################################				214	٠, ٠		
662 FORMAT(&X************************************			#FIF 60.662) TWSPH.LRUV.K.LBC.K	7141	200		
######################################	500	249	FOREST (6x+411081-1PE18-10+1D1+(1)+01+(-44-12+43-12)	ZIII	501		
NPRNER-1 NPR		6.70	TF (NEB. FG. NSPC) 60 TO 680	NAN	202		
MERMING (MSPC.NMR+5) MRTE (3.472) ((LEUV-K-LRC,K-LRPR(K)) * FEND-NMR) MRITE (3.472) ((LEUV-K-LRC,K-LRPR(K)) * FEND-NMR) MRITE (3.472) ((LEUV-K-LRC,K-LRPR(K)) * FEND-NMR) GO TO 670 CONTINUE GORDAT(ER-17**) (A**12*A3*12*A1)) MRITE (3.482) MRITE (3.482) MRITE (4.482) MRITE (4.482) MRITE (3.482) MRITE (3.482) MRITE (3.482) MRITE (3.482) MRITE (4.482)		,	ND STATE OF THE ST	2	1 6		
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##ITF(3,6,72)((L6UV*K*(RP)(K)),FBND,NBP) ##IN ##ITF(4,6,572)((L8UV*K*(RC*K*(RP)(K)),FBND,NBP) ##IN ##IN ##IN ##IN ##IN ##IN ##IN ##IN				2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	204		
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60 TO 670 660	505			ZIVI	506		
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672 FORMAT(FIX.1H*,1X*,6(A4.12.A3.12.A1)) WPITE(3.682) WRITE(4.682) WRITE(5.682) FORMAT(5.583) FORMAT(5.583) FORMAT(5.583) FORMAT(5.583) FAIN FORMAT(5.583) FAIN FAIN FAIN FAIN FAIN FAIN FAIN FAIN		089	STATE TOO	2142	act		
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SETTE(6.6EP) 6EP FOREST(6.6EP) 10 TO REP-NSPE(1) + (TL+TR+TD)/CE) 10 TO REP-NSPE(1) + (TL+TR+TD)/CE) 12 TO			WFITE (3.482)	2 4 3	916		
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	COM10=	11471	-;	SL-FTWLIB SL-FTWLIB					
	FECMSK	11535	7	SL-FINLIB					
	F. TOUTE	11576	415	SL-FINLIB					
	FMTAPE	12271	373	SL-FTNLIB					
	FORSYS	12664	533	SL-FTNLIB					
	FOWUIL=	13417	;;	5L-FTN, 18					
	INCOME	13526	25.4	SL-FTWLIB					
	INPC	14004	173	SL-FTNLIB					
	KODER	14177	467	SL-FTNLIB					
	KRAKFRA	24666	454	SL-FTW 18					
	001CE	15342	1.1						
	SYSAIDE	15737		SL-FINLIS					
C 020NE	OZONE FLAME.								
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* 181,887201 - 1.201942.50E-07.701 3.621943.50E+U0

* 181,887201 - 1.201942.50E-03.701 3.621943.50E+U0

* 181 3.82192.50E-U0.701 - 1.865.70E-U7.5.0

* 181 3.82192.60E-U0.701 - 1.865.70E-U0.701 - 1.867.70E-U0.701

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* 181 3.7216600E-U0.701 - 1.872048800E-U0.701

* 181 1.73260310E-U3.72.00T01 - 1.872048800E-U5.73.0

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C THERMAL CONDUCTIVITY.

LO DALGARMO AND SPITH FORMULA. T=100,2000.

C LOZ LEAST SAUAPES FIT OF MANLEY AND FLY DATA. T=300.2000.

C LOS BROMLEY CORRELATION. T=300.2001.

C 03 LENNARD-JONES PARAMETERS FROM A FIT OF TRETTER VISCOSITY DATA.

1 02 5.743600F-07 8.267750E-01

1,603700E-06 7,100000E-01

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3 03 3.899200E-07 A.424208E-01 AL 1= 4.743A00F-07017** B.267700F-011 AL 2= 1.603700E-040(T** 7.100000E-011 AL 3= 3.899200E-070(T** 8.424200E-01)

C BINARY DIFFUSION COEFFICIENTS.

C 0-02 FIT BY MARRERO AND MASON.

C 02-03 AND 0-03 LFWAARD JONES POTFNTIAL.

C O LENNARD JONES PARAMETERS FROM GALGARNO AND SMITH VISCOSITY DATA.

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. 03 LENNARD JONES PANAMFTERS FHOM & FIT OF THETTER VISCUSITY NATA.

C MADE FOR TH300.2000.

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10 12 1.32000E-05-07 1.7400E-00

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| DITENSION A (150) - A (150) - C (150)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N T W  |            |
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| PEAD IN THE LARELS AND MOLECULAR WEIGHTS OF THE SPECIES.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | NI V   | ~          |
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| FORIATIONSIDSOANSASOANS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MIN    | (4)        |
| FORTAL 64-0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2 4    | · M        |
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| CONTINUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 7 4    | •          |
| CARTITION YN H MASS FRACTION MOLFICLIAR REFIGHT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2 4    | m          |
| IF KCR # 2. ALSO WRITE A TEMPERATURE FOUATION.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2 4    | 00         |
| TRANSPORT OF STREET                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2.5    | •          |
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| 41 TE (30 314) 10 10 M(1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ~      | 94         |
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| IF (KCR.FO.2) BRITE (3.316) K.K.B.KK)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 214    | ŗ          |
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| FOREAL (AKANIY - NO - VIH > - NO - VIL / - NO - VI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 7 T Y  | 3.         |
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| THE DEFINITION OF GENERALIZED WE DEPEND ON THE HEACTION SET.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2 4    | · <b>·</b> |
| CO TIES AND AND LOTTIES IN IN THE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | •      |            |
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|      | AFAD (5-310) II<br>EARTH (6-310) II<br>EARTH (6-310) II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | u & 1               |
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| 22   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2                                       | 7 0                 |
| υ (  | NACE IS THE I VALUE CORPERSON. TO THE SUM OF THE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2                                       | E o                 |
| ى ر  | TROOT TARGET TO BOATH HER DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2 2                                     | # u                 |
| ı    | READ CALADO NACE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2                                       | ; <u>4</u>          |
| 322  | FOREST TOTAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2 4                                     | , <u>r</u>          |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 4                                     | ď                   |
|      | ZD141 (30.00) VVIII                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Z                                       | 9                   |
| 92   | FOREAT (AX.1147 :DSD/(Tev.12.14))                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ZIAM                                    | 70                  |
|      | PRITE(5.00)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | MAIN                                    | 7.                  |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z                                       | 7.2                 |
| a; € | FOREST (5X - SIDICHDIS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 7141                                    | 7.3                 |
| U    | A MAXIMUM OF THREE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ZIVE                                    | *                   |
| u    | (LSR(1,K).LSR(2.K). AND LSR(3.K)) AND THREF PPODUCTS (LSR(5.K).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NAIN                                    | 75                  |
| ပ    | LSR(6.K), AND LSR(7.K)).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | MAIN                                    | 42                  |
| U    | ALSO READ IN THE ARRHFNIUS CONSTANTS FOR THE MATE CONSTANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 4 1                                   | 7.                  |
| U    | AN H AP(T4PE) PEXP(C/1).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2141                                    | 7.8                 |
| ပ    | THE HATE CONSTANTS ARE EITHER IN CM**3/ROLF+SEC OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2141                                    | 79                  |
| U    | (CZ++2/MOLE+SEC)++2-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ZIEN                                    | 90                  |
| U    | IF A OR C APE NOT IN THE APPROPRIATE UNITS. HEAD IN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ZIVA                                    | 81                  |
| U    | CONCERNION HACHORN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | FA                                      | 85                  |
|      | READ (5) 31) CONVA CONVC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | MAIN                                    | æ                   |
| 33   | FORMAT(IP2E14.6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ZIVE                                    | 84                  |
|      | DO 30 K#1.ND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | KAIN                                    | 85                  |
|      | READ (5.32) (LSR (L.K.) - LH 3.7) - A (K.) - B (K.) - C (K.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ZIVI                                    | 98                  |
|      | BRITE (4-33) K ( ( SR (1-x) - ( 11) - 7 ) - A (K ) - 5 (K )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Z                                       | 7.6                 |
|      | # Z Z J J P Z Z J J P Z Z J J P Z Z J J P Z Z J P Z Z Z J P Z Z Z Z                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | N A                                     | Œ                   |
|      | THE CARGAS STATES THE CARGAS STATES S | Z                                       | 9                   |
|      | してることをできます。                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | MATA                                    | 5                   |
| 9    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z                                       | ? 5                 |
| 2    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 4                                     | 0                   |
| 2    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z                                       | 6                   |
| י    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7 4                                     | 7 0                 |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 2                                     | 7 4                 |
| ى د  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 2                                     | 6                   |
| د    | ARBELLONG - LCT-LOVECT CO. CCT-LOVECT CO. CCT-LOVECT CREATER CO. LCT-LOVECT CO. CCT-LOVECT CREATER CREATER CO. CCT-LOVECT CREATER CREAT | 2 4                                     | 6                   |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         | - 4                 |
|      | The Court of the C | 2 2                                     | £ 6                 |
|      | CONTRACTOR AND AN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2 2                                     | ? :                 |
|      | IF (FICK) NR. 0. 0) BAITE (Journal of K) CA (K) CA (K)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2 :                                     | 007                 |
| 34   | FORMAT (6x*2TPX*1V*1TB*1PE1X*4*6T*(1**(**V*11))*FXT(*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2                                       | 101                 |
|      | * F10.20.31/T)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2143                                    | 102                 |
|      | IF(B(K), FG,O,O,DPRITE(6,36)K+4(K),C(K)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Z V                                     | 103                 |
|      | IF (FIK) .FO.0.0) PPITE (3,36) K.A (K) .C(K)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MAIN                                    | <b>*</b> 0 <b>!</b> |
| 36   | FORMET (FX*STER.10*128-1PE10*4*SITERT(*F10*V*31/T))                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ZHVI                                    | 105                 |
|      | GO TO 34n                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Z                                       | 106                 |
| 330  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2147                                    | 107                 |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7                                       | 108                 |
|      | IN CR. CX. SM. C. C. SECTION C. CHARLES C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | NATA                                    | 100                 |
| 114  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 41                                    | 110                 |
|      | TOTAL TO CONTRACT  | 2 4                                     | ?                   |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         | •                   |
| ;    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z .                                     | 2:                  |
| 336  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z   4                                   | - I                 |
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| 340  | CONTINUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ZI VA                                   | *!!                 |

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| 120 | C THESE TERMS DEPEND ON THE HEACTANTS (LS(1-K1)-LS(2-K)-[S(3-K1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z   | 12                                      |
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| 120 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | MAIN                                    | _                                       |
| 120 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ZIV                                     |                                         |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 2                                     | • -                                     |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 2 4 3                                 | • -                                     |
|     | 医医院 中央 医二甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ZIV                                     |                                         |
|     | SA FORMAT(6x.1MR.12.3MARK.12.2M+Y.12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | MAIN                                    |                                         |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | MAIN                                    | ~                                       |
| 125 | 00 00 CH1 - 100 OO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ZIVE                                    |                                         |
|     | IF (LS(J) *Eu*LSW(Z*K)) IPZ#J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                                       | <b>-</b>                                |
|     | ID TENTED TO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | -                                       |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z Z                                     | -                                       |
| 130 | 68 FORMAT(6x+)110-12-61804-675 12-214-7-12-214-7-12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ZZZ                                     |                                         |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z Y                                     | _                                       |
|     | 70 DO 75 CB1 NSP0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ZITE                                    | _                                       |
|     | 75 IT (LS(J) EGo-LSR(3+X) IP3#U                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z                                       |                                         |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2                                       | <b></b> .                               |
| 139 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Z                                       |                                         |
|     | DO FORMER HANDS OF THE STATE OF |                                         | -                                       |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         | <b>-</b>                                |
|     | THE CONTINUE OF BELL BOARD OF THE STATE OF T | 2 2                                     | \$ ° • •                                |
| 340 | SPECIFIC CLASS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         | -                                       |
|     | asz. (F) on oc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Z Z Z                                   | ٠                                       |
|     | C IR(K)=THE NUMBER OF MOLECULES OF SPECIES J EITHER PRODUCED OR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NAIN                                    | 143                                     |
|     | C DESTROYED BT REACTION K.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ZIV                                     | -                                       |
|     | DO 275 KE1.NP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MAIN                                    | 145                                     |
| 145 | 0 m ( X ) a I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MAIN                                    | 746                                     |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7 I V                                   | Ž                                       |
|     | 260 IF (25(J)*PEC-(SF(I*K)) IR(K)*IR(K)-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Z                                       | 2                                       |
|     | 20 C. 1 R. C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Z                                       | <u>.</u>                                |
| 250 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 2                                     | ======================================= |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         | -                                       |
|     | 280 IF (IRCK) NE. 0) 60 TO 290                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Z                                       | 153                                     |
|     | 28-16 10 0 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | NIV                                     | =                                       |
|     | WRITE (6+282) J. RATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N I V                                   | =                                       |
| 155 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | RAIN                                    | =                                       |
|     | 282 FORMAT(6x.2HP(*12.2H)#+F6.2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 224                                     | ~                                       |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ZIV                                     | - :                                     |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 3                                     | -                                       |
| 971 | (7) 13 (7) (8) (8) (8) (10) (10) (10) (10) (10) (10) (10) (10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2 2                                     | -                                       |
|     | ので、「「「「「「「「」」」」は、「「」」は、「」」は、「」」は、「」」は、「」」                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2 7                                     | 162                                     |
|     | C PUT THE RATES FOR THE APPROPRIATE REACTIONS IN THE VECTOR II.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ZIV                                     | • -                                     |
|     | •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ZZZ                                     | 164                                     |
|     | DO 210 1=1.72                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2141                                    | 165                                     |
| 165 | 210 II(I)=II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | NI VI                                   | _                                       |
|     | 11(4) 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | NA 12                                   | 167                                     |
|     | 11(7)811(                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | MAIN                                    | 168                                     |
|     | IPLES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | MAIN                                    | <u> </u>                                |
|     | DO 250 K#1.NP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Z                                       | 170                                     |
| 170 | USP#0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | MA I'R                                  |                                         |

|          | PPOGHAM LOAD | 76/76 OPT=1 POUND=+=+/ TRACF FTN 4.64452                                                                                                                        | 05/16/79                                                     | 10.48.03                                | PAGE | 4829449 |
|----------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------|------|---------|
| ,        | 515          | WRITE (6.212) II<br>WRITE (3.212) II<br>FORMAT (72A.)                                                                                                           | ZZZ;<br>MUMU<br>AAU<br>AII;                                  | 173<br>174<br>175                       |      |         |
| <u>.</u> | 813          | I(I)=II+<br>II(O)=II+<br>II(A)=II+                                                                                                                              | 2 2 2 Z<br>2 Z Z Z<br>3 Z Z Z<br>3 Z Z Z<br>3 Z Z Z          | 176<br>178<br>178                       |      |         |
| 180      | 215          |                                                                                                                                                                 | ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ                      | 1 80<br>1 80<br>1 81                    |      |         |
|          |              | ITIGST-FF-01-00 TO 255 NRIBK/10 TO 255 NRIBK-10-NRI TO 255 TE 7.150 AT 7.1101 TO 255                                                                            | Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z                        | \                                       |      |         |
| 185      |              |                                                                                                                                                                 | ZZZZ<br>ELZZ<br>ELZZ<br>ELZZ<br>ELZZ<br>E                    | 186<br>186<br>188                       |      |         |
| 190      | C THE C      | II(IPL)=IASS(JSP)<br>E SUBROUTINE IHOL CHANGES AN INTEGER TO ALPHANUMFRIC FORM,<br>CALL IHOL(II(IPL)*L01)<br>IPL=IPL+1<br>II(IPL)*IH,                           | ZZZZZ<br>HHINHI<br>HEBBE<br>LIII                             | 189<br>190<br>192<br>193                |      |         |
| 195      | 230          |                                                                                                                                                                 | ZZZZZ<br>MIMIMI<br>MEGEGE<br>MILLI                           | 199<br>1995<br>1995<br>1994             |      |         |
| 200      |              | II(TEL) = N                                                                                                                                                     | Z Z Z Z Z Z<br>Z Z Z Z Z Z<br>Z Z Z Z Z Z Z<br>Z Z Z Z Z Z Z | 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |      |         |
| 205      | 235<br>250   | CONTINUE<br>CONTINUE<br>II(IPL)=1H)<br>MRTTE(6,212)II<br>WRITF(3,212)II                                                                                         | ZZZZZ<br>ZZZZZ<br>ZZZZZ<br>ZZZZZ<br>ZZZZZZ<br>ZZZZZZZZ       | 200<br>200<br>200<br>200<br>200         |      |         |
| 210      | S 2          | CONTINUS<br>WRITE(6+112)<br>FORMAT(6x+6HPETURN)<br>IF(KCR+EG+2)GO TO 400                                                                                        | ZZZZZ<br>HIMHH<br>HIMH<br>IIIII<br>IIIII                     | 210<br>212<br>213<br>213                |      |         |
| \$16     | C PA         |                                                                                                                                                                 | 72277<br>                                                    | 215<br>214<br>218<br>919                |      |         |
| 220      |              | DO ISO K#1*NF<br>IFIC(K).FG*0.01GO TO I40<br>IF(B(K).NE.0.01WPITE(6*34)K*A(K).R(K).C(K)<br>IF(R(K).NE.0.01WPITE(3*34)K*A(K).K(K).C(K)                           | 22722<br>HMHHH<br>4444<br>1111                               | 220<br>222<br>223<br>223                |      |         |
| 552      | 140          | IF (B(K), FCG.0.0) WRITE(3.36) K.A(K).C(K)<br>GO TO 150<br>CONTINUE<br>IF (RIK), NE.0.0) WRITE(3.334) K.A(K).H(K)<br>IF (RIK), NE.0.0) WRITE(6.334) K.A(K).H(K) |                                                              | 224<br>224<br>224<br>229                |      |         |

| 4829450                |                                                                    |
|------------------------|--------------------------------------------------------------------|
| PAGE                   |                                                                    |
| 05/16/79 10.4H.03      | 230<br>233<br>233<br>233<br>235<br>235                             |
| 05/16/79               | ZZZZZZ<br>PPPPP<br>PPPPP<br>PPPPPPPPPPPPPPPPPPP                    |
| FTN 4.6+452            |                                                                    |
| OPTE1 ROUNDS+-+/ TRACE | 0.0)WRITE(6.336)K.A(K)<br>0.0)WRITE(6.336)K.A(K)                   |
| 16/16                  | IF (8 (K), EQ.0<br>IF (8 (K), FQ.0<br>CONTINUE<br>CONTINUE<br>STOP |
| PROGRAM LOAD           | 14<br>00<br>00                                                     |

| SUMPOUTINE THOS | 76/76                   | 1 T T T T      | OPIE] POUNDES/ THACE | FTN 4.4+452 | 05/16/79 | 05/16/79 10.44.03 | ت<br>4<br>ئ | 4829451 |
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|      | /STP.END/        | 5540            | -          | SL-FTNLIH  |                    |       |          |                    |      |   |
|      | /£CL.C./         | 5541            | 23         | SL-FTNL 18 |                    |       |          |                    |      |   |
|      | /08.10./         | 556+            | 136        | SL-FTNL18  |                    |       |          |                    |      |   |
|      | GONTRY.          | 5722            |            | SL-FTNLIH  |                    |       |          |                    |      |   |
|      | COM10*           | 5723            | ;          | SL-FTNL IB |                    |       |          |                    |      |   |
|      | FECHSKE          | 5767            | 7          | SL-FTNL IB |                    |       |          |                    |      |   |
|      | FLTINE           | 6630            | 154        | SL-FTNLIB  |                    |       |          |                    |      |   |
|      | FLT0UT=          | 9539            | 318        | SL-FTNLIB  |                    |       |          |                    |      |   |
|      | FATAPE           | 6523            | 373        | SL-FTNLIB  |                    |       |          |                    |      |   |
|      | FORSYS=          | 7116            | 533        | SL-FTNLIB  |                    |       |          |                    |      |   |
|      | FORUTL=          | 7651            | ;          | SL-FTNLIB  |                    |       |          |                    |      |   |
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|      | KODER            | 16431           | 167        | SL-FTWLIB  |                    |       |          |                    |      |   |
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|      | OUTC=            | 11574           | 171        | SL-FTNL 10 |                    |       |          |                    |      |   |
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#### **GLOSSARY**

- $\begin{array}{ll} c_p & & \text{Specific heat capacity at constant pressure of the fluid mixture} \\ & (\text{cal/gm-K}) \end{array}$
- $c_{pk}$  Specific heat capacity at constant pressure of the k'th species (cal/gm-K)
- $D_{ij}$  Binary diffusion coefficient of species i in a bath of species j (cm<sup>2</sup>/sec)
- h<sub>k</sub> Specific enthalpy of the k'th species (cal/gm)
- $M_k$  Molecular weight of k\*th species (gm/mole)
- N The number of species
- P Pressure (atm)
- R Universal gas constant
  R = 1.9872 cal/mole-K
  R = 82.05 cm<sup>3</sup>-atm/mole-K
- $R_k$  Rate of production of k'th species by chemical reactions (moles/cm<sup>3</sup>-sec)
- t Time coordinate (sec)
- T Temperature of the fluid (K)
- u Velocity of fluid mixture (cm/sec)
- $V_k$  Diffusion velocity of k'th species (cm/sec)
- x Space coordinate (cm)
- $X_k$  Mole fraction of k'th species
- Y<sub>k</sub> Mass fraction of k'th species
- λ Thermal conductivity of the fluid mixture (cal/cm-sec-K)
- $\rho$  Density  $(gm/cm^3)$

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